

LEATH & ROSS'S HOMOEOPATHIC PHARMACIES

9 VERE STREET, W.,
And 5 ST. PAUL'S CHURCHYARD, E.C., LONDON.

ESTABLISHED 1835.

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	TO ACCOUNT.	FOR CASH.		TO ACCOUNT.	FOR CASH.
GLOBULES. —Sixpenny Tubes T...	3/0 doz.	2/9 doz.	PILULES. —Sixpenny Bottles ...	3/0 doz.	2/9 doz.
Ninepenny " ...	4/6 "	4/1 "	Ninepenny " ...	4/8 "	4/1 "
Shilling " ...	6/0 "	5/5 "	Shilling " ...	6/0 "	5/5 "
TINCTURES. —Sixpenny Bottles ...	3/0 "	2/9 "	TRITURATIONS. —Sixpenny Bottles	4/0 "	3/7 "
Ninepenny " ...	4/6 "	4/1 "	Ninepenny " ...	4/8 "	4/1 "
Shilling " ...	6/0 "	5/5 "	Shilling " ...	6/0 "	5/5 "

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**SEVEN HIGHEST AWARDS—Philadelphia, 1876; Paris, 1878;
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"Greatly superior to the preparations in common use."—THE LANCET.

VASELINE SOAPS.

EMOLLIENT, ANTISEPTIC, HEALING.

Three Styles.	{	VASELINE, SUPERFINE TOILET,	One size, 1s. per tablet.
		VASELINE, FAMILY TOILET,	Two sizes, 6d. and 9d. per tablet.
		VASELINE TAR,	Two sizes, 6d. and 9d. per tablet.

The "VASELINE" Tar Soap is the pleasantest and most effective combination of Tar for all Skin Diseases and Irritations, and a delightful Toilet article. The only genuine Tar Soap made.

The use of Lard, &c., as a basis for all ointments is now discarded by Medical Men, and "VASELINE" only is used for the purpose. "VASELINE," as is well known, possesses the most powerful inherent healing properties, is the best Emollient known to science, and will never become rancid: it is therefore the natural and only true basis for Soaps.

PREPARATIONS FOR MEDICINAL AND PHARMACEUTICAL USE.

"VASELINE" (PURE).	In 1-oz., 2-oz., and 5-oz. bottles, and in $\frac{1}{2}$ -lb., 1-lb., and 5-lb. tins.
"CAMPHORATED VASELINE."	In 2-oz. and 4-oz. bottles.
"CARBOLATED VASELINE."	" " and in 1-lb. tins.
"WHITE VASELINE."	In 1-lb. and 5-lb. tins.
"VASELINE CONFECTIONS."	In fancy tin box, one size, 1s. each.
"VETERINARY VASELINE."	In $\frac{1}{2}$ -lb., 1-lb., and 5-lb. tins.
"VASELINE OIL."	In 8-oz. bottles and 5-lb. tins.

FOR TOILET USE.

"POMADE VASELINE."	In 2-oz. and 5-oz. bottles. Also white in coloured glass-stoppered bottles.
"VASELINE HAIR TONIC."	One size, price 4s. each.
"VASELINE COLD CREAM."	In glass pots, 9d. and 2s.
"VASELINE CAMPHOR ICE."	In fancy tin box, one size, 6d. each.
"VASELINE TOILET SOAP."	As above, 6d., 9d. and 1s. tablets. Boxes of 6 and 3 tablets.
"VASELINE TAR SOAP."	" 6d. and 9d. tablets. " "

SUNDRY PREPARATIONS.

"VASELINE ANTI-CORROSIVE PASTE."	One size, tin box, 6d. each.
"VASELINE BOOT PASTE."	" " "
"VASELINE HARNESS PASTE."	In 1-lb. tins, 1s. 6d.
"VASELINE AXLE PASTE."	" " "
"VASELINE" (PURE).	In Metal Collapsible Cases, for Bicyclists and Sportsmen's Use. 6d. each.

NOTICE.—The above only Genuine in our Packages. The BOTTLED GOODS are put up in Cardboard Cases.

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CHESEBROUGH MANUFACTURING CO.

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41 HOLBORN VIADUCT, LONDON, E.C.



HOGÉ'S HOREHOUND HONEY

The safest and most efficacious remedy ever discovered for all pulmonary diseases, sore or congested lungs, consumption, coughs, colds, sore throats, hoarseness, &c. An uncompounded product of Nature secreted in the petals of Horehound blossoms, and gathered by the honey bee.

London, March 30, 1883.

Gentlemen,—I have much pleasure in stating that I consider your Hoge's Horehound Honey the most wonderful remedy I have ever tried, possessing properties which are nothing short of marvellous, for the cure of affections of the throat and chest.

(Signed) MARIE RÔZE.

7 Suffolk Lane, London, E.C., April 20, 1883.

I never found any remedy to relieve the irritation of my throat until I tried your Hoge's Horehound Honey, which had a wonderful soothing effect and gave relief at once.

(Signed) G. F. BLACK.

16 Gloucester Road, Finsbury Park, April 28, 1883.

Your Hoge's Horehound Honey was very effectual in relieving and ultimately curing my daughter's cough.

(Signed) J. W. BAYLEY.

Mincing Lane, London, April 27.

Your Hoge's Horehound Honey was used with great success in my family.

(Signed) H. RUBECK.

Langham Hotel, April 28.

I find immediate relief of my throat and chest when troubled with an irritating and hacking cough by using your Hoge's Horehound Honey.

(Signed) J. C. MILLER.

47 Arlington Street, Islington.

I was troubled for a long time with a bad cough, which I found was becoming chronic. I used your Hoge's Horehound Honey, and gave it a fair trial. I am happy to be able to tell you that it quite relieved me, and I recommend it as a certain cure.

(Signed) G. M. SMYTH.

2 Moorgate Street, London, April 30.

I have your small bottle of Hoge's Horehound Honey, which I have tried, and find it excellent. I should be glad if you would send me a larger bottle to my house, The Poplars, Herne Hill.

(Signed) D. CHADWICK.

Put up only in Bottles to sell at 1s. 1½d. each. Price to Chemists 8s. 6d. per dozen. 1000 Handbills sent with each gross ordered.

To any Chemist who sells 12 gross within 12 months 1 gross will be given as a bonus.

Supplied by Messrs. Burgoyne, Burbidges, Cyriax & Francis; Messrs. Barclay & Sons; Maw, Son & Thompson; W. Edwards & Son; F. Newbery & Sons; Sanger & Co.; R. Hovenden & Sons; Alexander & Co., Dublin; or any Wholesale Druggist. Also of the Proprietors—

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OWNERS OF THE ONLY HOREHOUND APIARY.

JOHN MORGAN RICHARDS,

MANUFACTURING CHEMIST,

WHOLESALE AND EXPORT DEALER IN

AMERICAN AND FOREIGN

Patent Medicines and Proprietary Articles.

ALL MEDICINES of repute known in the American Market may be obtained upon the most favourable terms.

ORDERS ARE SOLICITED FOR ALL AMERICAN PRODUCTS IN THIS LINE.

OFFICE AND WAREHOUSE:

92 & 93 GREAT RUSSELL STREET, LONDON.

WHOLESALE DEPOT FOR

PERRY DAVIS'S PAIN KILLER.

VAN BUSKIRK'S SOZODONT.

HOLMAN'S PADS AND PLASTERS.

Himrod's Asthma Cure. Gayetty's Paper.

GROSVENOR'S BELLADONA PLASTERS.

DELAORE'S COCOA.

ECKELAERS' And upwards of 200
Varieties of High-
Class Toilet Soaps.

SPRING ROSE SOAP (No. 141 on LIST) is universally sold, and prepared especially for the Toilet of Ladies and Children. For exquisiteness of perfume and quality this Soap is simply unrivalled.

ECKELAERS' LIST includes upwards of 200 Varieties of Toilet Soaps.

In addition to their intrinsic merits, they are unique in the tasteful way the TABLETS are got up and boxed.

Observe that EVERY TABLET of ECKELAERS' SOAP has his Trade Mark stamped upon it.

ALSO

TRANSPARENT GLYCERINE SOAP, in Bars and Tablets.

SOLE PROPRIETOR OF

Lactopeptine, Hanford's Bronchitine,
Powell's Embrocation, &c., &c., &c.

PRICE LIST sent on request, accompanied by Card of Address. Attractive SHOW CARDS, WINDOW BILLS, PAMPHLETS, &c., respecting the above Articles and Medicines supplied to the Trade.

Orders sent direct will be executed upon the terms of Printed List.

References are required with all new accounts.

Address—92 & 93 GREAT RUSSELL STREET, LONDON.

S. MAW, SON & THOMPSON'S Bath Gloves, Rubbers, &c.

	Gloves. (Pairs.)	Straps.	Pairs.
CALEFACIO OR BADEN, No. 1, soft Brown . . . per doz.	6/4	10/8	6/0
CALEFACIO OR BADEN, No. 2, hard Brown . . . per doz.	6/4	10/8	6/0
CALEFACIO OR BADEN, No. 3, soft Brown striped. per doz.	6/8	11/4	6/0
CALEFACIO (the U.S.), Striped soft Brown . . . per doz.	6/8	11/4	6/0
HONEYCOMB, White. per doz.	5/4	10/8	5/6

	Gloves. (Pairs.)	Straps.	Pairs.
REVERSIBLE, No. 1, one side soft Brown, the other best White Turkish . . . per doz.	7/0	12/0	6/0
REVERSIBLE, No. 2, one side hard Brown, the other White Honeycomb . . . per doz.	7/0	12/0	6/0
REVERSIBLE, No. 3, one side Egyptian Loofah, the other best White Turkish, per doz., single	8/0	—	—

TURKISH THIN WHITE GLOVES, per doz. pairs, 4/- PADS, per doz. 4/-
Ditto BEST QUALITY " 5/- " " 5/6

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

S. MAW, SON & THOMPSON'S WATERPROOF CHECK SPONGE BAGS.

BEST QUALITY.

No. 1	2	3	4	5	6
7×6	8×7	9×8	10×9	11×10	12×11 inches.
6/0	7/0	9/0	11/0	12/6	16/0 per dozen.

For other descriptions, see Quarterly Price Current, page 99.



S. MAW, SON & THOMPSON'S BRIGHTON SPONGE BAGS,

WITH BALL CLASP FASTENINGS, NICKEL-PLATED.

	No.	2	3	4	5	6
		8×7	9×8	10×9	11×10	12×11 inches.
CHECK...	...	16/0	18/0	20/0	26/0	28/0 per dozen.
PAISLEY	...	18/0	20/0	22/0	28/0	32/0 "

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.



THE BRIGHTON
SPONGE BAG.

S. MAW, SON & THOMPSON, LONDON.

F. A. SARG'S SON & CO.'S

CHEMICALLY PURE GLYCERINES

AND

TOILET GLYCERINE ARTICLES.

Transparent Glycerine Soap,

In registered Packets of three Tablets, and in oval Tablets in paper. Warranted to contain 33% of the purest Glycerine.

Liquid Glycerine Soap,

Best preventive against chapped hands, and unrivalled for imparting softness to them, and rendering them clean and white.
See Testimonials of Professor J. von Liebig, Baron; and of Professor F. Wöhler.

Sarg's Double Distilled Glycerine, Chemically Pure,

In $\frac{1}{2}$ lb. and 1 lb. Bottles, should have a place in every nursery on account of its salutary action on the heads of children, relieving them from dandruff, and the roughness of the scalp they are so commonly subject to.

Sarg's New Carbolic Glycerine Soap,

In Boxes of three Tablets, is highly recommended as a most effective disinfection.

GLYCERINE, CHEMICALLY PURE.

SARG'S DISTILLED CHEMICALLY PURE GLYCERINE, 29° Beaumé, in Cases of Four 56-lb. Tins each.

SARG'S DOUBLE DISTILLED GLYCERINE, Chem. pure, 30° Beaumé, in Cases of Four 56-lb. Tins each;
Twenty 5-lb. Bottles, Fifty 1-lb. Bottles, and 100 $\frac{1}{2}$ -lb. Bottles, with Registered Label.

SOLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS.

SOLE WHOLESALE AGENTS FOR THE UNITED KINGDOM AND THE COLONIES,

SCHMEDES, ERBSLOH & CO.,

36 & 37 Monkwell Street, LONDON, E.C.; 14 Market Buildings, Flinders Lane, MELBOURNE;
34 Pitt Street, SYDNEY.

SINAPISMES PARISIENS.

Medals at Universal Exposition, Paris, 1878; Melun, 1880; Bordeaux, 1882.

Manufactured by M. POURRET,

PHARMACIEN OF THE HIGHEST CLASS OF THE ECOLE DE PHARMACIE DE PARIS.



STEAM MANUFACTORY AT PARIS.

Specially Prepared with the Names and
Addresses of Pharmacists.

Each 1,000 leaves of the Sinapismes ordered will be accompanied by a very handsome chromo-lithograph, bearing the name of the retail pharmacist only, with an announcement to the public enumerating the advantages of the Sinapismes.
When desired by buyers we reproduce without extra charge all trade marks, medals, coats of arms, &c. We also undertake to print on the back of each Sinapism the name of the retailer, with an advertisement of his specialities or other products, and to enclose a circular in each box of ten leaves.

We commend to the attention of pharmacists these Sinapismes bearing their own names, and we guarantee to supply an article of the highest quality.

Besides supplying the public with an excellent Sinapism the pharmacist secures the double advantage of advertising his name and address, as well as his special products, without extra charge.

The Sinapismes are put up as required in packets of 10, 25, or 100 leaves, in very handsome varnished tin boxes, ornamented with vignettes, and bearing the directions for use.

If 5,000 boxes are ordered we undertake to place the name of the buyer on each box. All packages are free, and orders exceeding £6 are sent carriage free.

WE PRINT IN EVERY LANGUAGE.
PRICE CURRENT.

SINAPISMES PARISIENS WITHOUT THE NAME.

Boxes of 10 leaves	Of. 70c., about 0s. 7d.
" 25 "	1s. 35c. " 1s. 1½d.
" 100 "	5s. 00c. " 4s. 0d.

SINAPISMES WITH THE NAME OF RETAILER.

Boxes of 10 leaves	Of. 75c., about 0s. 7½d.
" 25 "	1s. 50c. " 1s. 3d.
" 100 "	5s. 50c. " 4s. 7d.

For this kind orders must be for not less than 1,000 leaves.

MUSTARD FLOUR

Prepared for Veterinary Use. In Varnished and Gilt Metallic Boxes of 500 grammes (about 17 ounces), at 1s. 50c. (about 1s. 3d.) per box.
We Guarantee the greatest revulsive effect and excellent keeping quality.
Each Box bears directions for preparing and using Mustard Plasters.

Orders or applications for
Samples to be addressed to

LELASSEUR & CO., 40 Rue de la Verrerie, PARIS.

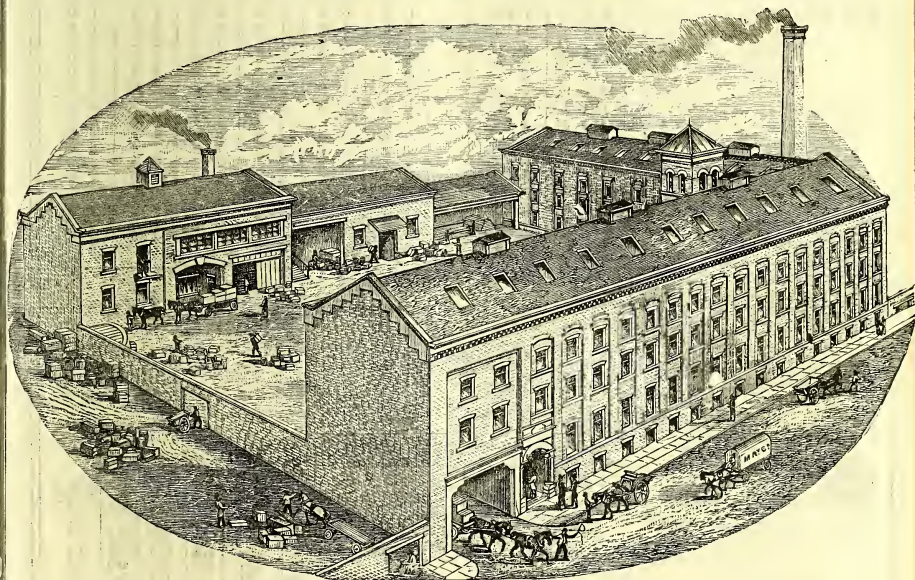
WILLIAM MATHER,

MANUFACTURER OF

Indiarubber, Medicinal, Adhesive, Porous, Bunion, Corn, Court, Kid, Leather,
Mustard, Roll, Spread, Pharmaceutical, and Surgical

PLAISTERS

Of every Description, in the most approved Form. Quality first importance. Every Article warranted.




FOR PRICE LIST OF MATHER'S PLAISTERS,

See the following 2 Pages.

MANUFACTORY:

DYER STREET, HULME, MANCHESTER, ENGLAND.

Are manufactured of the same kind of ingredients as those sanctioned and ordered by Dr. Andrew Smith,
Director-General of Her Majesty's Army and Navy Ordnance Medical Department, for the use of the
Soldiers and Marines in Scutari Hospital.



BREAST PLASTER.

	No.	Size of Leather	Retail Prices.	Per doz.
			d.	s. d.
Emp. Plumbi, for Ladies' Breasts	1	Diam. 6 1/2 in.	4 size	2 8
Emp. Plumbi, for Ladies' Breasts	2	" 7 1/2 "	6 "	4 0
ditto spread on Chamois	1	" 7 1/2 "	4 "	0 0
ditto ditto	2	" 7 1/2 "	6 "	0 0

BREAST PLASTER.

	No.	Size of Leather	Quality. Per doz.	Quality. Per doz.
			s. d.	s. d.
Emp. Belladonna, for Ladies' Breasts	1	Diam. 6 1/2 in.	5 4	4 0
ditto	2	" 7 1/2 "	8 0	6 0
ditto spread on Chamois	1	" 6 1/2 "	8 0	0 0
ditto ditto	2	" 7 1/2 "	12 0	9 0

HOSPITAL PLASTER.

on Black Cloth, 16 in. wide, doz. yds. 8/0

" "

Every other description of Putzker used in the world
spread on any material, to suit any climate.

MANUFACTORY—

MANUFACTORY—
DYER STREET, HULME, MANCHESTER, ENGLAND.

PRICE LISTS SENT ON APPLICATION.

W. MATHER'S PLAISTERS, &c.

MATHER'S SURGEONS' RUBBER ADHESIVE PLAISTER.

This article has met with unprecedented success, and has been emphatically pronounced by our most skilful Surgeons as "the best Surgeons' Adhesive Plaister known." It is applied without heat or moisture, conforms quickly to the parts, is perfectly flexible and waterproof, and is ready for use at any moment. It is free from irritating properties. In counter-extension it has no equal, as it does not move or slide after being applied. In addition to these general improvements, the Plaister being impervious to water, wounds can be cleansed without removing the Plaister, obviating the necessity of constant re-dressing, saving labour and time. Heat applied to it renders it extremely adhesive. It is spread on strong cotton cloth, in 1-yard lengths, 7 inches in width, each roll in a separate box.

Per dozen yards 17/-

MATHER'S NEW BLISTERING PLAISTER.

(WARRANTED TO BLISTER.)

This Plaister is fast becoming very popular, being found perfectly reliable and very convenient, being ready spread on Canton flannel.

In One-Yard Lengths, 6 inches in width; each yard in a separate box.

Per dozen yards 48/-

DIRECTIONS.—Cut a piece of the required size, warm it a little, then apply the black surface to the skin, press the hand over it, and maintain it firmly with a bandage. It is recommended to rub the part previously with a little alcohol or vinegar.

POROUS PLAISTERS, per doz. :—
Porous Plaisters, in Rubber Combination, in boxes of 2 dozen 2 6
Belladonna Porous Plaisters, in Rubber Combination, in boxes of 2 dozen 2 6
Capsicum Porous Plaisters, in Rubber Combination, in boxes of 2 dozen 2 6

SPREAD PLAISTERS, in Rubber Combination, in 1-yard lengths, 7 inches in width; each yard in a separate box, per dozen yards :—
Strengthening, Belladonna, and Capsicum, each 17 0

MUSTARD PLAISTERS, spread on Flexible Cloth :—
Mustard Plaisters, size 4½ ins. by 3 ins., 10 in a box per doz. boxes, 10 0
" One Soiling size, 6 in a fancy box 6 0
" Sixpenny size, 3 in a fancy envelope 3 0
" In yard rolls, 6 inches wide per doz. yards, 10 0
" In 1-yard rolls, 6 inches wide 6 0

Notice.—These Plaisters are a great improvement over all others; they are cut in convenient size, and can also be obtained in half and one yard lengths; they are spread on flexible cloth, and conform quickly to the part. They do not break into pieces when in use, neither does the mustard peel off; therefore more cleanly for use. They are made of pure Mustard, and will retain their properties in all climates.

PLAISTERS, ROLL, per lb. :—
Emp. Adhesivum . . £0 1 0 Emp. Hydrag. . . £0 3 4
" Ammon. . . 0 2 6 " Melliloti . . . 0 1 4
" Ammon. c. Hy. . . 0 3 6 " Opil . . . 0 5 0
" drag. . . 0 3 6 " Oxycroci . . . 0 10 0
" Belladonna Alch. . 0 5 0 " Pici . . . 0 1 0
" Calafendens . . 0 1 4 " Plumbi . . . 0 9 9
" Cantharid. B.P. . 0 4 0 " Resinae . . . 0 0 0
" Cer. Saponis . . 0 2 2 " Roberans . . . 0 1 0
" Ferri . . . 0 0 10 " Saponis . . . 0 1 0
" Galbani Co. . . 0 1 6 " Thuris Co. . . 0 1 2

Every other description of Plaister used in Pharmacy or Private Formula made up in Rolls. £ s. d.

PLAISTERS, POOR MAN'S:—
On Strong Twilled Cloth, per grs. . . . 0 15 0
On Cloth, Second Quality, per grs., 11s. On Paper, per grs., 9s.

PLAISTERS, BUNION:—
On Thick White Felt, oval, round, or square, per grs. . . 0 6 0
On Thin 0 4 6
In round boxes, each containing 4 thick, per doz. . . 3 0
In square green boxes, containing 6 thin, doz. boxes . . 0 8 0
In square green boxes, hinged, containing 6 thick, doz. boxes 0 4 0

Samples of the above sent on application. **TERMS**—12½ per cent. discount at One Month, 10 per cent. Three Months, current account. Special Quotations to Wholesale Buyers.



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LONDON WHOLESALE & EXPORT AGENTS—MESSRS. MACE & HALDANE, 77 Milton Street, London, E.C.

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SOLD BY ALL CHEMISTS.

MATHER'S SURGEONS' ISINGLASS PLAISTER.

Spread on Fine Cambric. (Waterproof, and applied by Wetting.)

COMBINED QUALITIES.—Strength of material, it is non-irritating, very adhesive, susceptible to the slightest wetting, quickly applied, waterproof, applied without heat, does not spoil, warranted to keep good in any climate any length of time.

It is to be had in 5 and 1 yard rolls, 12 inches in width, each roll in a separate box.

In 5-yard rolls per 5 yards, 5/0
" 1-yard " 1 1/3

MATHER'S WHITE FELT INDIARUBBER CORN AND BUNION PLAISTERS.

NO WARMING OR WETTING REQUIRED.

These Plaisters are made by an entirely new process, and possess considerable advantages over those at present in use.

It is generally admitted that the majority of Corn Plaisters now before the public do not give satisfaction, inasmuch as, in addition to other defects, they are not sufficiently adhesive and are liable to crack. These to which I desire to draw your attention conform quickly to the part, retain their adhesive nature, and are applied without either heat or moisture. They will also keep in perfectly good condition and are warranted not to crack.

In square White Enamelled Boxes, each containing One Dozen Plaisters.

PRICES :—3/- per gross, thin. 4/- per gross, thick. BUNION PLAISTERS (Same Make).

In square White Enamelled Boxes, each containing Six Plaisters, Assorted Shapes.
3/6 thin, 4/6 thick, per dozen boxes.

PLAISTERS, CORN:—
In round boxes, each containing 12 thick, per doz. . . £0 2 0
On Thick White Felt, per grs. . . . 0 2 8
On Thin 0 1 10
In round boxes, each containing 12 thin, doz. boxes . . 0 2 6
In square green boxes, each containing 12 thin, d. z. boxes . 0 2 6
In square green boxes, hinged, each containing 12 thick, doz. boxes 0 3 6

PLAISTERS, MATHER'S Articulated Felt Corn and Bunion:—
On Thick White Felt, per grs. . . . 0 2 6
On Thin 0 1 10
In round boxes, each containing 12 thin, doz. boxes . . 0 2 6
In square green boxes, each containing 12 thin, doz. boxes . 0 2 6
In square green boxes, hinged, each containing 12 thick, doz. boxes 0 3 6

PLAISTERS, CORN, on Leather:—
Universal, in d. boxes, per grs. . . . 0 8 0
" 2d. . . . 0 16 0
On Charcoal, 2d. 4 thick, per grs. . . . 0 16 0
White Felt, spread with Emp. Cerat. Saponis, per lb. . . 0 12 0
" Court Plaister, per lb. . . . 0 16 0

COURT PLAISTERS. Black, Pink, Skin, or White Silk, wrappers or cases, per gross :—
No. 1, d. . . £0 6 0 No. 4, d. . . £2 0 0
No. 2, d. . . 0 12 0 No. 5, l. . . 3 18 0
No. 3, d. . . 1 1 0

COURT PLAISTERS. Red leather cases, per gross :—
No. 1, d. . . £2 8 0 No. 2, l. . . £4 16 0
Envelope Leather Cases, one dozen on a card, per dozen, 4s. 6d.

COURT PLAISTER. In yard rolls, 16 inches in width, spread on Rubber-treated silk, each roll in separate box, per yard :—
Black, Best . . £0 6 0 Pink, Medium . . £0 5 0
" Medium . . 0 5 0 " Common . . 0 4 0
" Common . . 0 4 0 Skin, Best . . 0 6 0
White, Best . . 0 6 0 " Medium . . 0 5 0
" Medium . . 0 5 0 " Common . . 0 4 0
" Common . . 0 4 0 " Africa . . 0 3 6
Pink, Best . . 0 6 0

GOLDBEATERS' SKIN. Wrappers Embossed, per gross :—
No. 1 . . . £0 6 0 In cases, 1d. . . £0 6 0
No. 2 . . . 0 12 0 " 2d. . . 0 12 0
No. 3 . . . 0 18 0 " 3d. . . 0 18 0
No. 4 . . . 1 16 0 " 4d. . . 1 16 0

GOLDBEATERS' SKIN. Six inches wide, per yard 2s.

DRUGGISTS' SUNDRIES DEPARTMENT.

SAVAR'S

TRADE  MARK.

PROPRIETARY SPECIALITIES.

HOUSEHOLD REQUISITES.—MEDICAL REQUISITES.—TOILET REQUISITES.

SAVAR'S HOUSEHOLD REQUISITES.

ANIMAL SOAP (Non-Poisonous). 6d. packets.
BRUNSWICK BLACK. 6d. and 1s. bottles.
CARBOLIC ACID SOAP (containing 8 per cent. of acid). 6d. per lb.
COTTON WOOL. 6d. and 1s. boxes.
FEEDING BOTTLES (Various, Nos. 1 to 9). 6d., 1s., 1s. 6d., and 2s. each.
FLY PAPERS.
FOSSILINE (SIMPLE).
FURNITURE POLISH. In bottles, 1d., 2d., 6d., and 1s. each.
KNIFE POLISH. 6d. and 1s. canisters.
MARKING INK. 6d. and 1s. bottles.
POMADE. Family magnum. Large 1s. bottles.
SOAPS. For toilet, 2d., 3d., 4d., and 6d. tablets, and 1s. boxes.

SAVAR'S MEDICAL REQUISITES.

ABSORBENT COTTON WOOL. 6d. and 1s. boxes.
BREAST EXHAUSTERS. 1s. to 12s. 6d. each.
CARBOLIC ACID SOAP. 4d. tablets, 1s. boxes.
CHEST PROTECTORS (Various).
COMBINATION MEDICINE SPOON (China). 1s. 6d. each.
EAR SYRINGE. 1s. each.
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11	" FIRST	200	4	8	0	2	5	0
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18	" " FIRST QUALITY	100	13	5	0	6	13	0
19	" " FIRST	200	13	18	0	7	0	0
20	" " SECOND	200	8	15	6	4	8	0
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6	2nd	Do. quality shapes, assorted sizes	125	8 0 0
7	2nd	Do. do.	75	4 4 0
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9	2nd	Do. do. large Bath sizes	25	5 0 0
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19	2nd	Do. Bath sizes	35	9 0 0
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21	3rd	Do. do.	65	5 5 0
22	3rd	Do. Bath sizes	35	7 0 0
23	1st	Turkey Solids, assorted sizes	115	7 0 0
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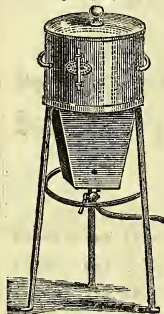
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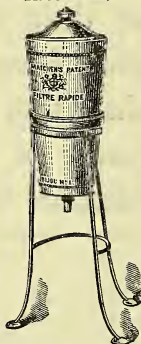
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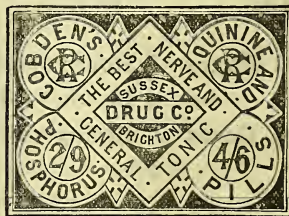
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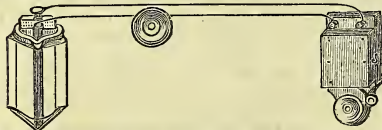
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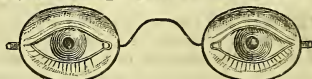
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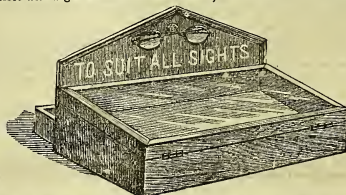
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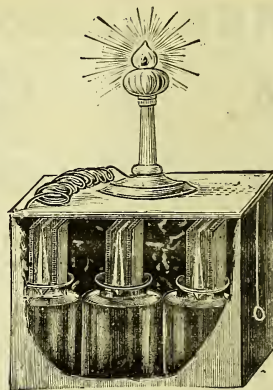
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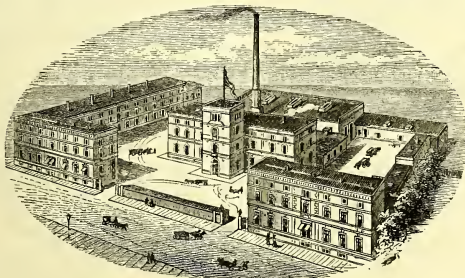
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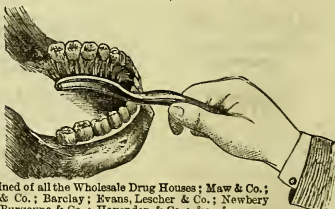
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SOLE PROPRIETOR AND MAKER OF THE ABOVE.

P. A. S. can supply the above to Wholesale Houses in Sheet or Sticks, in any quantity, with their name stamped upon each piece.

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SPECIAL NOTICE.—The words SILVERY WHITE GUTTA PERCHA ENAMEL for Stopping Decayed Teeth are registered as a Trade Mark, and will be protected.

IMMENSE SALE.

WOODS' ARECA NUT TOOTH PASTE.

Price, 6d. and 1/- per Pot.

Sold by all Wholesale Houses.

OSCAR SUTTON & CO.,

REGISTERED

**OS TOOTH
BLOCK**

TRADE MARK.

PRESTON.

SAFEST DENTIFRICE



SOLD BY
ALL CHEMISTS.

The "British Journal of Dental Science" says:

"We have used this Dentifrice with so much comfort and satisfaction that we have no hesitation whatever in recommending it strongly to the notice of our readers."

The "Chemist and Druggist" says:

"Compounded of materials which make a very agreeable dentifrice, clean the teeth thoroughly well, and the convenient style in which they are supplied adds to their attractiveness."

Sold by all the leading Wholesale Houses.

OSCAR SUTTON'S O.S. TOOTH BLOCKS keep good for any time in any climate. They may be had of Messrs. Evans & Co., Barclay & Sons; R. Hovenden & Sons; Lynch & Co.; Maw, Son & Thompson; F. Newbery & Sons; Sanger & Sons; Edwards & Son; LONDON. Felton, Grimwade & Co.; Rocks, Tompitt & Co.; MELBOURNE. John Hercules, Dunedin—NEW ZEALAND. Jas. Purves—VALPARAISO. Hy. Finnick & Co.—JAMAICA.

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ELEGANT CRYSTAL

TOILET CASKET

PRICE 2/6.

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METALLIC BOX

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This celebrated Dentifrice is recognised by leading Dentists as the most efficient for exterminating *Leptothrix buccalis*, and for thorough CLEANSING PROPERTIES.

W. J. BUSH & CO.,

Distillers and Importers of

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SOLUBLE ESSENCES FOR AERATED WATER,
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Extra Super Lemon, which is double the strength of ordinary commercial qualities.

W. J. B. & CO. CAUTION the Trade against the so-called soluble Essences now so frequently offered for sale, which are nothing more than mere tinctures, and, although offered at lower prices, cost five or six times as much in use, whilst imparting a strong medicated flavour.

NONE OTHERS ARE GENUINE.

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PROTECTED BY ROYAL LETTERS PATENT.

For producing a head of Creamy Richness upon all kinds of Syrups, Aerated Waters, Beers, Ales, Cider, Champagne, &c., 2s. 6d. per pound.

W. J. BUSH & CO. regret having to CAUTION the Trade against spurious imitations of this article, most of which being mere rubbish.

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OL. AMYGD. ESSENT. ANG.

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20-23 ARTILLERY LANE, BISHOPSGATE, LONDON, E.

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IS NOW MADE IN THE FOLLOWING STYLES:

Sixpenny Size.

											Per dozen.
No. 1.	...	Upright shape, green glass, white fittings	3/6
No. 15.	...	Bent neck, white fittings	...	...	...	...	...	...	...	...	3/6
No. 10.	...	Bent neck, screw glass stoppers	...	...	...	...	...	...	...	...	4/-
With black fittings, 3/- gross extra.											

One Shilling Size.

No. 13.	...	Bent neck, pot caps, white flint glass	...	...	...	...	...	...	...	...	7/-
No. 15.	...	" all rubber fittings, "	...	...	...	...	...	...	...	...	8/-
No. 17.	...	" screw glass stoppers, white flint	...	...	...	...	...	...	...	...	7/-
No. 19.	...	" screw metal caps, "	...	...	...	...	...	...	...	...	7/-
All in handsome boxes with two brushes. With black fittings, 1/- dozen extra.											

One Shilling and Sixpenny Size.

No. 20.	...	Bent neck, gilt metal cap, &c., black fittings	12/-
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All with pure rubber fittings. Tube and bottle brush, spare tube and teat, in extra strong box, handsomely labelled. Price list of other patterns on application.											

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A new remedy for Neuralgia. For outward application.

Very saleable.

Per dozen ... 4/- 8/-

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500 sheets in packet.

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Poor Man	per dozen	2/-
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" (Belladon)	"	2/6

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100 gross in a bag. Per gross, 4d. net.

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Nickel Plated, with hinged front for Medicated Wool.

Per dozen ... 16/-

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Glass, with Indiarubber Ball and Tube.

Per dozen ... 27/-

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Will coat with ease and rapidity $\frac{1}{2}$ lb. of Pills. Each, 4/6.

Saves its cost at once.

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For wrapping medicine bottles.

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2	3	4	6	8	oz.

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Free from Sand. No Loss or Waste. One Dozen on a Card.

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To sell at	-/1	...	-/2	...	-/3	...	-/4	...	-/6	...	1/-	...	1/6	...	2/-	...	2/6	...	5/-

Send for a Complete Catalogue, containing 600 Illustrations.



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(BOURNE & TAYLOR),

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CHEMISTS & DRUGGISTS' TRADE ASSOCIATION Of GREAT BRITAIN.

NOTICE OF ANNUAL GENERAL MEETING.

NOTICE IS HEREBY GIVEN, That the SEVENTH ANNUAL GENERAL MEETING of the Members of this Association will be held in the Banqueting Room of the INNS OF COURT HOTEL, LINCOLN'S INN FIELDS, LONDON, W.C., on Tuesday, May 22nd, 1883, at Twelve, noon, for half-past Twelve, for the transaction of the following business:—

To receive and consider the Report of the Executive Committee, and the General Statement of the Funds of the Association.

To elect an Executive Committee and Officers for the ensuing year.

To discuss questions affecting the interests of the Trade.

OFFICE OF THE ASSOCIATION,
23 BURLINGTON CHAMBERS, NEW STREET,
BIRMINGHAM, May 11, 1883.

W. F. HAYDON,
Secretary.



BURGESS, WILLOWS & FRANCIS,
WHOLESALE & EXPORT DRUGGISTS,
AND
MANUFACTURING PHARMACEUTICAL CHEMISTS,
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Price Lists sent on application. Special quotations given for Shipping Orders.

HOP BITTERS CAUTION.

Our Preparation being duly Registered and Trade Marked under the Laws of Great Britain, and having been placed before the Public at great expense to us, we give notice that we shall fully protect our rights in every instance. Anyone making use of our Title, Labels, Bottles, or in any way attempting to trade on our reputation will be dealt with at once to the fullest extent of the law.

HOP BITTERS CO., London.

HOP BITTERS.

We guarantee the sale of Hop Bitters, and authorise you to do the same by your Customers. If at any time you are dissatisfied with them, please return what you have unsold in good condition, and we will remit you the amount paid for same.

HOP BITTERS CO.

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ESTABLISHED
106 YEARS.

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600 HANDS.

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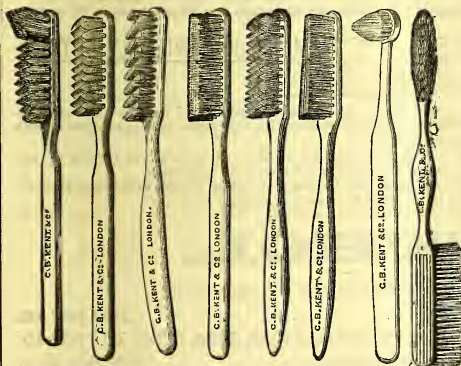


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TRIPLE CEMENTED AND EXTRA SECURE.
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(Telescope pattern, silver-plated.)

G. B. Kent & Sons' Revised Catalogue of Prices for 1883 is in the Press, and will be issued when ready. Copies will be forwarded on application.

SPONGES.—At 11 Great Marlborough Street is a Sponge Room worth the inspection of the Trade.

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EFFERVESCENT APERIENT SALINE.

This is a finely granulated preparation, which, in dissolving, produces a sustained sparkling effervescence, and a clear, bright solution.

It possesses all the advantages of an agreeable saline, combined with the anti-febrile properties of Chlorate of Potash, of which it contains a considerable percentage. It is, in short, an efficient aperient and febrifuge, and makes an exceedingly pleasant and refreshing beverage.

PRICES.—This Saline is supplied IN BULK at 1s. 6d. per lb.; 1s. 5d. per lb. for 14 lbs.; 1s. 4d. per lb. for 112 lbs. Also in ½-lb. bottles (to retail at 1s. 6d.), 11s. per doz., with or without labels.

It is supplied also on the same terms with A. & H.'s own labels and wrappers, ready for retail sale.

THE "A. & H." MALT EXTRACT.

Allen & Hanburys can with confidence recommend this Preparation as second to none in its nutritive value and power of liquefying gelatinised starch, whilst they claim that it possesses the following advantages over other extracts in the market, under whatever name they may be sold:—

IT KEEPS INDEFINITELY IN ANY CLIMATE.

IT IS MORE CONVENIENTLY PUT UP.

IT IS CONSIDERABLY CHEAPER.

The *Lancet*, March 17, 1883, says:—"The diastase is well preserved in this preparation, and therefore its action on starch is very rapid. We find that when starch paste is heated for about an hour with the extract it ceases to give a black colour in iodine. The Extract is light in colour and pleasant in taste."

Sold in 8 oz. and 16 oz. wide-mouth (almost cylindrical) bottles, containing 12 ozs. and 24 ozs. by weight, at (retail), 2/ and 3/6 each; 16/ and 28/ per dozen. This Extract is also sold in bulk; quotations and samples on application.

Allen & Hanburys will be glad to make any combinations of their Malt Extract that may be desired, whilst they keep the more important ones ready put up in the same description of bottle as the plain extract, retailing at 2/6 each.

MENTHOL.

We are now able to supply this article at the following rates:—

PURE MENTHOL, in Crystals 10d. per oz.

" " " in quantities of not less than 5 lbs. (Tin) 10/ per lb.

" " in CONES (four to an ounce) 4/6 per doz.

Menthol Cones have a ready sale as an efficacious application for Rheumatism, Neuralgia, &c.

SCHIEFFELIN'S

Are made of the best materials; perfectly protected; entirely and quickly soluble; coated while soft; not subjected to the injurious effects of heat in the process of manufacture. The mass is worked to the highest possible degree of uniform intermixture, and subdivided with scrupulous exactness. The coating is an inert,

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PILLS.

A Book of about 400 Formulæ, containing doses, also descriptive circulars, price lists, and samples, can be had on application to—

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SHEEP DIP

Biggs

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Pulvermacher

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VIOLET POWDER

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VETERINARY

Calvert
Chesbrough Co.
Day Son
Foster (Hoop Pill)

Gabriel

Helliers

James, R. J.

James, R. J.

Kilson (Pig Powders)

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WHELSLE & EX DRGS

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Corbyn

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SOLUBLE & PERMANENT SUGAR-COATED PILLS.

No Pin-Holes. No Secret Coating. Purest Drugs.

Award of Merit, International Medical and Sanitary Exhibition, 1881.

SIX GRAND WORLD'S FAIR MEDALS. FIRST CENTENNIAL PRIZE OVER ALL COMPETITION.

The manufacture of official and other ready-made Pills for Physicians' prescriptions has been, on our part confined to those coated with sugar and round in shape; because an experience of more than a quarter of a century serves to convince us that sugar is the only proper material with which to coat a pill; in confirmation of which we append the following reason :-

- 1.—Because sugar is more soluble than gelatine, glue, chalk, or talc, of which the two former are the same in substance and properties. "Sugar-coated pills are more soluble than gelatine-coated or compressed pills."—*Prof. Remington's Paper read before the American Pharmaceutical Association, Boston, 1875.*
- 2.—That according to our process, no sub-coating of insoluble shellac is necessary.
- 3.—That the direct application of heat is entirely avoided, and the masses can be coated when so soft as not to admit of being dipped in a hot solution of gelatine, or other substance.
- 4.—Sugar as a coating is not incompatible, as is the case with gelatine, when brought in contact with certain kinds of food, astringent fruits, or wine containing Tannin, by which it (gelatine) is converted into a condition the basis of leather.
- 5.—The preservative properties of sugar, and the tendency to attract rather than yield moisture as gelatine does, prevent the subsequent drying and hardening of the pills.
- 6.—A round substance is more easily swallowed than one which is elongated, flattened, or pointed, there being no art in deglutition that would enable it to pass endwise.
- 7.—The colour and shape of some gelatine-coated pills are so inelegant by comparison with the round, white sugared pill, as to be repulsive to sensitive patients.
- 8.—Actual experiments, which you are enabled to perform as to *solubility* and the administration of a dose of cathartic pills, the effect of which is soon apparent, will practically demonstrate the truth of our claims for the superiority of WARNER & Co.'s method over ALL others for coating pills.

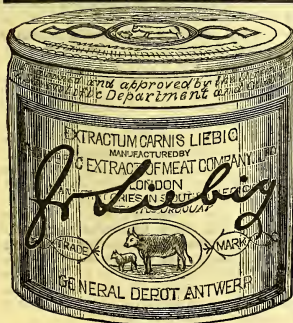
WM. R. WARNER & CO., Manufacturing Chemists, Philadelphia.

Sole British Depot—F. NEWBERRY & SONS (Estd. A.D. 1746), 1 King Edward St., Newgate St., London, E.C.

Complete List, with Opinions of the British Medical Profession, post free on application.

LIEBIG COMPANY'S EXTRACT OF MEAT

AN INVALUABLE AND
PALATABLE TONIC FOR
INVALIDS.



*Peculiarly efficacious in all cases of
Debility and Weak Digestion.*

Liebig
TRADE MARK

CAUTION.—Inferior substitutes being in the market (sometimes accompanied by misleading analyses and names), Purchasers must insist on having the Liebig Company's Extract. For flavour and clearness is pronounced by all competent authorities to be the best.

N.B.—Genuine **ONLY** with fac-simile of Baron Liebig's Signature, in Blue Ink, across Label.

DU BARRY & CO., LIMITED.

To be Incorporated, with limited liability, under the Companies' Acts, 1862 to 1880, whereby the Liability of Members is limited to the amount of the Shares subscribed for.

CAPITAL, £60,000,

DIVIDED INTO 30,000 SHARES OF £2 EACH Payable in full on Allotment.

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G. R. BARCLAY, Esq. (Messrs. BARCLAY & SONS, Wholesale Chemists and Patent Medicine Vendors), Farringdon Street.

H. DAVENPORT, Esq., Pharmaceutical Chemist, 33 Great Russell Street.

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AUDITORS.

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SECRETARY (*pro tem*).

HENRY ELLIOTT, Esq.

TEMPORARY OFFICES.

96 AND 97 PALMERSTON BUILDINGS, LONDON, E.C.

PROSPECTUS.

The Company is proposed to be formed to purchase the Business carried on for many years of the Manufacture of the celebrated **Revalenta Arabica, Revalenta Arabica Chocolate Powder, Revalenta Biscuits, &c., &c.**, together with the Freehold Mills in Stratford, Essex, and Asnières, France, machinery, stock-in-trade, goodwill, and exclusive right to use the above title.

The Freehold Mills at Stratford are of recent and substantial construction. The machinery is quite new and perfect for the work required, and embodies all the improvements which have been suggested by the experience of many years. It has been laid out in the view of a greatly increased demand, and will be able to meet the requirements of a very large extension of business. In addition to the machinery for making the food, there is plant of excellent construction for the manufacture of the Tins used for packing.

The business, although in the hands of one proprietor, has, for the last five years, been carried on as a Limited Company. The proprietor, after forty years of labour, during which he has amassed a large fortune, by means of this business, and having arrived at a mature age, has now decided to make over the business to the Company proposed to be formed.

The large returns made by Proprietary Articles generally are well known, and subscribers may, therefore, with perfect safety and with every prospect of success, take over an old-established concern of the reputation of the one now offered.

Revalenta Arabica and its compounds are well known to and recognised by the medical profession. It enables the most enfeebled stomach to digest it with ease, and has been the means of saving life and restoring to health many who had been suffering for years, as witnessed by some 90,000 testimonials, both from the medical profession and the public.

The celebrated travellers, Dr. Livingstone and Mr. Henry M. Stanley, say they cannot speak too highly in its favour. On board ships it has been found most efficacious as a change from and a substitute to salt meat, and prevents the

disorders too often resulting from the continued use of the latter. Dr. Andrew Ure, Dr. Shortland, Dr. Harvey, Dr. Campbell, Dr. Stein, Dr. Wurzer, Dr. Ingram, and many other medical men in England and abroad have testified to its great value, and there is no food which has so large a support from the medical profession.

Dr. B. F. ROUTH, Physician to the Samaritan Hospital for Women and Children, London, declares: "Among the vegetable substances, **Du Barry's Revalenta Arabica** is the Best." "Rich in phosphoric acid, chloride of potassium, and caseine (the elements of blood, brain, bone and muscle), it has cured many women and children afflicted with atrophy and marked debility. The absence of the above elements in bread and pap and other farinaceous food is the great cause of the fearful mortality of infants—51 per 100 in their first year."—B. F. ROUTH, Physician to the Samaritan Hospital for Women and Children, London.

The purchase price to be paid is £50,000, and on this sum the certified profits of the last five years have been upwards of 12 per cent. The Directors, however, are of opinion that the expenditure of a few thousand pounds in a branch of advertising which has been hitherto neglected will result in an increased publicity and consequent increased sales, and that, by curtailing some very large expenses which they believe to be wholly unnecessary for the proper conduct of the business, the Company will be able to pay dividends largely in excess of the profits shown during the last few years.

The only contract entered into by the Company is one between Karl Siebert, of the one part, and Henry Elliott on behalf of the Company, and is dated the Eleventh of May, 1883, copy of which can be seen at the Offices of the Solicitors to the Company.

The Directors propose to take over the business on the First of June, so that no time will be lost in utilising the capital of the Company.

The Directors will make application to the Stock Exchange for a settlement and quotation, in order that the Shares may become a marketable security.

For Prospectus and Forms of Application for Shares apply to the Secretary.

THOMPSON, MILLARD & CO.

LIMITED,

GREAT EASTERN STREET, E.C.

NOTICE TO THE TRADE.

HAVING purchased the Business lately carried on by Messrs. R. H. MILLARD, SON & APPLETON, at 40 Charterhouse Square, we have altered the style of our Firm from that of JOHN C. THOMPSON, Limited, to that of THOMPSON, MILLARD & CO., Limited, under which title we shall in future trade.

A NEW AND MOST COMPLETE

Druggists' Sundries & Patent Medicine List

Will be issued by us in the early part of April. Copies will be sent post free on application.

We shall remove about the beginning of April to a most commodious warehouse (within a few doors of our present address). Provision has been made for a large Show Room for Surgicals, Sundries, &c., and we shall invite inspection of same by our friends.

All Orders promptly despatched.

Our own Carts deliver in London and Suburbs daily.

Every attention given to Export Orders, and best terms offered. In forwarding Indents through Merchants, please state that the goods are to be obtained from THOMPSON, MILLARD & CO., Limited.

SOLE PROPRIETORS OF

THE ORIENTAL HAIR RESTORER.

The Best 1/- Hair Restorer in the Market. Show Cards and Handbills on application.
Trade Price, 7/6 per dozen.

OSBORNE'S LADIES' OINTMENT, BROWN'S BENZINE,
MACINTOSH'S CALORIC ABSORBER, &c., &c.

THOMPSON, MILLARD & CO., LIMITED,

GREAT EASTERN STREET, LONDON, E.C.,
Wholesale Druggists' Sundriesmen & Patent Medicine Vendors.

CAUTION.**Robinson's Concentrated Waters.**

(ESTABLISHED 1855.)

Numerous complaints have been made to me of the inferior quality of "Concentrated Waters" supplied by several of the Wholesale Drug Houses. I now find it incumbent to state that during the last twenty-five years I have devoted a large portion of my time and attention to the improvement and perfection of these useful preparations, and that I have the satisfaction of knowing that they *now* occupy a more favourable position in the opinion of the Medical Profession and the Trade generally than at any other time. To guard against future disappointment it is necessary to see that each bottle has my protection label over the cork, without which no other is reliable.

*Put up in ½-lb. and 1-lb. Bottles.***TESTIMONIALS.**

From the *Lancet*, July 15th, 1882:—"CONCENTRATED WATERS (Robinson's, Pendleton, Manchester). Among the samples sent to us we find Aqua Anethi, Anisi, Cinnam. Ver., Rose, and some dozen of others. Diluted with forty parts of water they form the ordinary waters of the Pharmacopœia. They are excellent in quality, and will be very useful, especially in country practice."

From the *London Medical Record*, December 15th, 1879:—"Mr. ROBINSON, of Manchester, has long had a great reputation for his Concentrated Waters, from which can be prepared the ordinary waters for dispensing. We have lately had the opportunity of examining some of the kinds in most general use—Cinnamon Water, Camphor Water, Peppermint Water, Rose and Elder Flower Waters—and it is satisfactory to see that these valuable old preparations continue to maintain and to deserve their place in public favour. Among the host of novelties yearly brought forth there is a liability to overlook these good old standard medicaments. How many of our mothers and grandmothers can testify to the comforting, soothing, and warming effects of a good dose of Peppermint Water. For all dispensing purposes these Concentrated Waters are reliable and excellent preparations."

ROBINSON'S ORANGE WINE

(VIN. AURANTII, B.P.)

Specialy prepared for Quinine Wine, does not deposit, will keep good in any Climate, and well adapted for Export Trade. Supplied in Casks containing 9, 18, 30, 60, or 120 Gallons. Terms on application.

THE UNIVERSAL CORN AND WART PENCIL.

1 doz. mounted on a handsome Illustrated Show-Card, Retail, 6d. each; Wholesale, 3s. 6d. per doz. It is especially adapted for Export Trade, and may be safely sent to the hottest climates, as each glass tube is hermetically sealed and enclosed in a cardboard case.

N.B.—The above is exempt from Stamp Duty by permission of the Board of Inland Revenue.

CONCENTRATED WATERS.—One Ounce of these Waters added to Forty Ounces of Distilled

Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopœia, and free from all Chemical Impurity. They are prepared to supply a want long felt by Chemists and Medical Men, and by their use a fresh supply of any of the Medicinal Waters may be obtained at a moment's notice. They are not affected by age in any climate. N.B.—Used in the proportion of one part to thirty-two of water they represent the Medicinal Waters of the *United States Pharmacopœia*.



	Per lb.		Per lb.		Per lb.		Per lb.
Aqua Anethi, Concent.	4/0	Aqua Cinnam. Ver. Concent.	6/0	Aqua Fœniculi, Concent.	4/0	Aqua Pimentæ, Concent.	4/0
" Anisi, "	4/0	" Cassia "	4/0	" Mentli. Pip. "	4/0	" Rose "	8/6
" Camphoræ "	4/0	" Flor. Aurant. "	8/6	" Ang. Con. 6/0		" Rose Virgin "	10/6
" Carui "	4/0	" Flor. Sambuc. "	8/6	" Virid. "	4/0		

The above are put up in Bottles of ½lb. or 1lb. and upwards, each of which has the Inventor's Protection Label over cork.

Wholesale Agents—Heaton & Co., Maw, Son & Thompson, Lynch & Co., London; Evans, Sons & Co., Liverpool; Woolley, Manchester; Bewley & Draper, Hunt & Co., Dublin; Glasgow Apothecaries' Co., Hatriek & Co., Glasgow; Ralms & Co., Duncan Flockhart & Co., Edinburgh; Foggitt, Thirk; Goodall & Co., Leeds; J. Richardson & Co., Leicester; Slinger & Son, York; McKesson & Robbins, New York. Special terms for large quantities may be had from

B. ROBINSON, Distiller and Brewer of British Wines, Church St., Pendleton, Manchester.

W. EDWARDS & SON,

157 QUEEN VICTORIA STREET, LONDON,

WHOLESALE AND EXPORT DEALERS IN

Patent Medicines and Proprietary Articles,

ENGLISH, AMERICAN, FRENCH, &c.

SOLE AGENTS for ROCHE'S HERBAL EMBROCACTION,

Burchell's Anodyne Necklaces, Ford's Balsam of Horehound, Widow Welch's Pills, by Mrs. Smithers, &c., &c.

PRICE LISTS SENT ON APPLICATION. ORDERS CAREFULLY AND PROMPTLY EXECUTED.



J. J. BELL & CO.'S SECRETE OIL and UNIQUE VEGETABLE EXTRACT (FOR THE HAIR).

1 KING EDWARD STREET, NEWGATE STREET, LONDON, E.C.: May, 1883.

By an Indenture dated 7th May, 1883, F. NEWBERY & SONS have become *SOLE PROPRIETORS* of the two Articles above named, and are prepared to supply the same as heretofore.

Net Trade Price for either Preparation ... Retail, 1/-, 2/-; per doz., 7/9, 15/6.

F. NEWBERY & SONS.

(ESTABLISHED A.D. 1746.)

Proprietors also of Berdoo's Triple French Essences, &c.; Brockedon's Patent (introduced A.D. 1842) Compressed Tablets of Pure Bi-carb. Potass, Pure Bi-carb. Soda, Chlorate Potass, and Nitro-carbonate Potass; Doughty's Voice Lozenges; Dr. James' Fever Powder; Dr. Steers' (Genuine) Opodeldoo and Camomile Drops, &c., &c.

PAUL PFLEIDERER'S PATENT SIFTER

Is the Cheapest and Simplest, while it is more Effective, more Easy to Handle and More Durable than others.

Suitable for Sifting every description of powders. Standard size, to sift 20 cwt. of flour per hour by hand, price £5 10s. Always in stock at the Sole Manufacturer's—PATENTEE OF THE CELEBRATED

UNIVERSAL KNEADING & MIXING MACHINE,

86 UPPER GROUND ST., BLACKFRIARS.

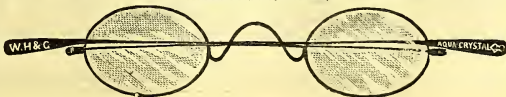
PAUL PFLEIDERER.

WM. HERBERT & GODFREY'S CELEBRATED AQUA CRYSTAL SPECTACLES

(REGISTERED).

WM. HERBERT & GODFREY beg to draw the attention of Chemists and Druggists to their method of supplying their celebrated AQUA CRYSTAL SPECTACLES.

W. H. & G.'s Glasses are kept by most of the leading Chemists and Druggists all over the world. W. H. & G. supply their customers, free of charge, with Showcards for Windows, &c., Test Types and Optometer to assist in taking the correct



sight. Pamphlets on "Sight, and How to Preserve it," containing medical testimonials, &c., &c., and with the customer's name and address printed on the cover; also circulars, posters, &c., &c.

W. H. & G. only supply their goods on the following terms:—5 % off for Cash in ten days; 2½ % off for Cash in three months; or half Cash to be paid in three months and balance in six months, net.

NO GOODS SENT OUT ON SALE OR RETURN.

For full particulars and Price Lists, apply to

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Dr. J. COLLIS BROWNE'S CHLORODYNE.

THE ORIGINAL AND ONLY GENUINE.

IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that 'Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th, 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation; nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

ORIGINAL AND



ONLY GENUINE.

FURTHER IMPORTANT NOTICE.

The subjoined list of eminent Firms concur with Vice-Chancellor Sir W. Page Wood's statement in Court, that Dr. Collis Browne was undoubtedly the Inventor of Chlorodyne; and that when Chlorodyne, or the Original Chlorodyne, is ordered, they invariably supply Dr. J. Collis Browne's:—

Apothecaries' Hall,	London	Frazer & Green,	Glasgow	Newbery & Sons,	London
Allen, Hanbury & Co.,	"	Gale & Co.,	London	Oldham, G. & Co.,	Dublin
Baiss Brothers,	"	Giles & Son,	Clifton	Parsons & Richardson,	Leicester
Banks & Richards,	Birmingham	Goulding, Messrs.	Cork	Peake, Allen & Co.,	Dublin
Barron, Harvey & Co.,	London	Gratton & Co.,	Belfast	Raimes & Co.,	Liverpool
Bell, John & Co.,	"	Grimwade, Ridley,	London	Raimes & Co.,	York
Bourne & Taylor,	"	Grindley & Son,	Chester	Raimes, Blanshards & Co.,	Edinburgh
Coryn & Co.,	"	Heaton, Squire & Francis,	"	Sang & Barker,	"
Cox & Gould,	"	Hodkinson, Tonge & Stead,	"	Sanger, J. & Sons,	London
Curling & Co.,	"	Hopkins & Williams,	"	Sim, James & Co.,	Aberdeen
Curtis & Co.,	"	Hunt & Co.,	Exeter	Smecton, W.,	Leeds
Davy, McMurdo & Co.,	"	Hunt, A., & Co.,	"	Sonshall & Co.,	Birmingham
Dobbin, W. & Co.,	Belfast	Johnson, J. H. & S.,	Liverpool	Sutton, W. & Co.,	London
Drew, Barron & Co.,	London	Langton, W., & Co.,	London	Tomlinson, Hayward & Co.,	Lincoln
Drew, B., & Alexander,	"	Lynch & Co.,	"	Treacher, Hodgkinson & Co.,	"
Dunn & Company,	"	Mander, Weaver,	Wolverhampton	Westrup, J. B.,	Kensington
Edwards, W.,	"	Marsden & Sons,	London	Westwood & Hopkins,	Lincoln
Evans, Gadd & Co.,	"	Maw & Son,	"	Woolley, James,	Manchester
Evans, Lescher & Evans,	London	Meggeson & Co.,	"	Wyleys & Browne,	Coventry
Ferris & Co.,	Bristol	Mackay, John,	Edinburgh	Yates & Co.,	London
Foulger, S., & Son,	London	Morson, T., & Son,	London		

After these public statements in a Court of Equity, and consistent confirmation by the trade at large, no Chemist can conscientiously use or sell any other compound for Chlorodyne without committing a breach of faith, unjust to patient and physician. The value of the remedy alone creates the great demand.

Sold in Bottles—1s. 1½d., 2s. 9d., 4s. 6d., and 11s. Usual Discount to the Profession.

SOLE MANUFACTURER,

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NOTICE TO THE TRADE.

HOLT'S HOOPING COUGH SPECIFIC.

This invaluable and world-renowned Remedy, having been in use for upwards of 80 years, can now be obtained throughout the United Kingdom, of all Chemists, Druggists, and Wholesale Houses; also at the

DEPOT: 63 ST. PAUL'S CHURCHYARD, LONDON.

AGENTS ARE WANTED IN EVERY TOWN.

IMPORTANT

TO

CHEMISTS AND DRUGGISTS.

We beg to CAUTION our Customers at home and abroad that

DRUGGISTS' SUNDRIES AND SPECIALITIES

Of our Manufacture in this department are styled

SAVAR'S

And that all our best quality goods will be protected by our Trade Mark, to imitate which is felony.

EVANS, LESCHER & WEBB,
LONDON.



EVANS, SONS & CO.,
LIVERPOOL.

BULLOCK'S PEPSINA PORCI. DOSE—
2 to 4 grains.

Dr. Beale's Process. In Small Bottles for Retail and in Bulk.

BULLOCK'S ACID GLYCERINE OF PEPSINE, DOSE—
5j. to 5ij.

May be prescribed with most substances compatible with Acids. In 4 oz., 8 oz., and 16 oz. Bottles, and in Bulk.

Messrs. BULLOCK & CO. beg to direct attention to a paper on "Medicinal Pepsine and Artificial Digestion," in the *Practitioner* for March, 1880 by G. F. DOWDESWELL, Esq., B.A. (Cantab.), F.C.S., F.L.S., &c. Upwards of 200 experiments made by the Author proved the great superiority of BULLOCK'S PEPSINA PORCI and ACID GLYCERINE OF PEPSINE over every other Pepsine or Preparation of Pepsine, English, French, German, or American, and confirmed the equally favourable reports of Dr. PAY (1869), Professor TUSON (1870), and the late Professor GARNOD (1878), as to the pre-eminent digestive value of Bullock's Pepsina Porci.

PEPSINE WINE, Bottles, 3/, 5/6, and 10/6.	PEPSINE PILLS, Containing 2, 3, or 4 grains.	PEPSINE LOZENGES, Boxes, 3/ and 5/6.	PEPSINE AND CHARCOAL LOZENGES, Boxes, 2/6 and 4/6.
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J. L. BULLOCK & CO., 3 Hanover St., Hanover Square, LONDON.

And of all Wholesale Houses.

CHEMISTS' TRANSFERS.

32 LUDGATE HILL, LONDON (14 Doors from St. Paul's Churchyard).

MESSRS. ORRIDGE AND CO., CHEMISTS' TRANSFER AGENTS,

May be consulted at the above address on matters of SALE, PURCHASE, and VALUATION.

Immediate attention given to Foreign Commissions.

The Business conducted by Messrs. ORRIDGE and Co. has been known as a Transfer Agency since the year 1846, and is well known to all the leading firms in the Trade.

VENDORS have the advantage of obtaining an opinion on Value derived from extensive experience, and are in most cases enabled to avoid an infinity of trouble by making a selection from a list of applicants for purchase, with the view of submitting confidential particulars to those alone who are most likely to possess business qualifications and adequate means for investment.

PURCHASERS who desire early information regarding eligible opportunities for entering business will greatly facilitate their object by describing clearly the class of connection they wish to obtain. N.B.—No Charge to Purchasers.

Particulars of any of the following will be sent free on application:—

- 1.—LONDON, E.C.—Close to City; Retail and Dispensing business; returns over £1,100; nearly half net profit; large house, part let off; price £950.
- 2.—LONDON, N.E.—Good-class Retail and Dispensing business; situate in an improving locality; returns nearly £500; good house, low rental; price about £375.
- 3.—LONDON, S.E.—Very old-established Retail and Dispensing, with several Proprietary articles attached; returns average nearly £1,200; price about £1,000.
- 4.—LONDON, S.W.—Good-class Retail and Dispensing; returns over £600; very profitable; good house, low rental; price £550.
- 5.—SCARBOROUGH.—Good-class Retail and Dispensing; returns over £800, and very profitable; large house; price about £600.
- 6.—NORTHUMBERLAND.—Light Retail and Family trade; returns £550; large scope for increase; price £400.
- 7.—NORTH OF ENGLAND.—Mixed business, held by the vendor many years; returns nearly £1,100; price £650, or valuation.
- 8.—SOUTH COAST.—Large town; good-class Retail, Dispensing, and Prescribing business; capital corner position in a very busy locality; returns £500 yearly; price £450.

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AN OLD-ESTABLISHED Dispensing and Medical Business; very profitable; terms easy; central position.

DISPENSING, Prescribing, and light Retail Business, in a middle-class neighbourhood on the borders of the City; established 20 years; neatly-fitted corner shop; comfortable house, cellars, and good yard, at easy rent.

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A JUNIOR ASSISTANT; Minor qualification; 22 to 24 years of age. Apply, with particulars, to J. E. Finch & Co., Bath.

WANTED, an Assistant for a Mixed Country Business, Midland counties. Apply, in the first instance, to Mr. Knowles, Chemist, 149 Friar Street, Reading.

WANTED, A Gentleman calling on Wholesale and Retail Chemists in Scotland, to represent an old-established manufacturing firm on commission. "Manufacturer," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

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A ASSISTANT; aged 24; good reference and experience; outdoor; disengaged early in June. H. T., 60 West Street, Fareham, Hants.

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A SENIOR ASSISTANT, Manager of Branch, or Dispenser to Public Institution; aged 27; married; passed Minor; 12 years' experience; permanency required; 5 years last situation. A. W. Pullin, the Daily Telegraph Office, Bradford.

TO SODA WATER MANUFACTURERS.—A Young Man (22), well-connected, possessing some knowledge of the business, seeks Employment in a Firm doing the best class of business, with possibility of Junior Partnership after a time; very moderate capital only; large country town preferred; good references. R. S., care of Hayward Tyler & Co., 84 Upper Whitecross Street, London.

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Unendowed. Seventy Beds. Funds urgently needed. Trained Nurses sent out to attend private patients.

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Recipes, 1/1 each; 3 for 2/6, with full directions. Post free. Send for detailed Lists of 160 recipes, all in actual commerce.

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And sold at 1s. 1d., 2s. 9d., 4s. 6d., 11s., 22s., and 33s. each Box or Pot.

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Thin, 12 in box (round 6d. boxes) ...	2/4 per doz. boxes.
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The **Price for Empties** applies only to Zoedone bought under these terms, and is given for a case containing the full number of ZOEDONE bottles and laths, delivered in good condition, carriage paid, at Wrexham. Empty cases are not repurchased.

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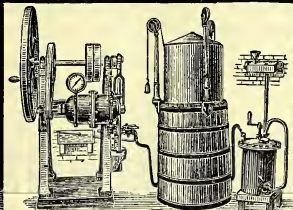
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MAKES 400 DOZ PER DAY AND IS FITTED
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Price and full particulars on
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Any portion of this plant is sold separately
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RAPID PARAGON TURNOVER FILLING MACHINE.

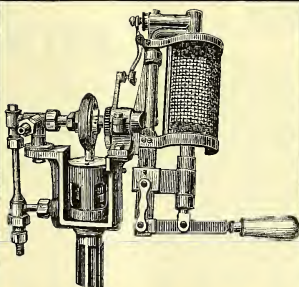
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IN GAS ALONE AND DO NOT WASTE THE
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PUMP CAN BE REGULATED TO THE
GREATEST NICETY AND DOES NOT
WORK WHEN BOTTLING SODA WATER ALONE

The simplest, quickest, cheapest
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Glass, Barrel, Syrup Pump,
and all latest improvements.

£10 10s

Before purchasing any other
machine please send for illus-
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ALL KINDS OF INTERNAL PATENT
STOPPERED BOTTLES WITH ONE
MOTION AT THE RATE OF 60 DOZ
LARGE AND 80 DOZ SPLITS
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of the latest Stock of new
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our Catalogue and Circulars
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COPPER & GUNMETAL CYLINDERS
Combined or separable
SHAFTING HANGERS BELTING
STEAM ENGINES AND BOILERS
GAS AND WATER ENGINES.
PACKING CASES.

GASOMETERS,
BOTTLE WASHING MACHINES,
PATENT & ORDINARY BOTTLES,
DRUGS, CORKS, TINFOIL, &c.

MANUFACTURERS OF DERESINIZED SOLUBLE ESSENCES.

Importers of Essential Oils, Fruit Essences, and other Chemicals and Ingredients for manufacturing pure
Aerated Waters.

SOLUBLE ESSENCES		
LEMON	5/6 HOREHOUND	Per lb. 5/0 VANILLA
GINGER ALE	5/6 PEAR & GINELLE	5/6 & 5/6 AMTISE
ORANGE (SWEET)	5/6 PINEAPPLE	3/6 & 5/6 CHAMPAGNE CIDER
ORANGE (BITTER)	5/6 RASPBERRY	5/6 HOPS
GINGER	5/6 PHOSPHOR & IRON	"HOT TOM"
CAPSICUM	5/6 (For Medicinal Family Drinks)	8/6 ORANGE BITTERS
		5/6 & 7/6 TONIC (For Tonic Water)
		9/0 ORIS
		5/6 ROSE
		7/6 SPICED ALE
		2/6 CINNAMON
		6/6 CLOVES
		7/0 LIMES
		5/6
		7/6

All the above Essences are manufactured by an entirely new process, and for purity and general excellence of flavour they cannot be equalled while they mix perfectly bright with water or syrups. These Essences impart rich, fruity, and aromatic flavours to the drinks, and a trial will at once convince the Trade of their superiority over others in the market (Essential Oils) which do not mix, but float on the top of the Syrup, causing great waste.

BRATBY & HINCHLIFFE,

43, POTT ST AND SANDFORD ST. ANCOATS, MANCHESTER.

ALSO AT 148 MINORIES, LONDON, E.C., and 1535 RIDGE AVENUE, PHILADELPHIA, U.S.A.

FRATELLI DE PASQUALE & CO.,

LARGO MUNIZIONE, MESSINA, SICILY,

Manufacturers, established on the very growth place, for the Finest

ESSENTIAL OILS

OF LEMON, BERGAMOT, SWEET AND BITTER ORANGE. Recently Awarded at the Exhibitions of

CALTANISSETTA, 1879—A Gold Medal and 200 Liras for Invention of Machinery to the use of their manufactory, and Silver Medal for Excellence of Produce.

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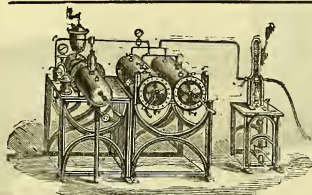
MILAN, 1881—A Bronze Medal for Excellence of Produce.

A first trial order is quite sufficient to remain convinced of the Excellence of our Essences.

Samples and all Particulars may be had from our Wholesale Agents—

SAMUEL LAMBERT & CO., 137 Fenchurch St., London,

OR FROM MESSINA DIRECT.



SODA WATER MACHINE COMPLETE, WITH RACK.

AND ALL REQUIREMENTS OF EITHER TRADE.

SEPARATE CATALOGUES, POST FREE.

BEFORE BUYING, SEND FOR CATALOGUE TO

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BARRETT'S PATENT BOTTLES.

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"BISSCHOP" GAS ENGINES.

SODA WATER MACHINERY

And all Appliances connected therewith, for the Manufacture of the Highest-class Waters, by

BARNETT & FOSTER,

231 FORSTON STREET, SHEPHERDESS WALK, LONDON, N.

Prize Medals—London, 1862, 1873, 1874; Paris, 1867, 1878; Vienna, Philadelphia, Cape, &c. Highest Award, Sydney, 1879-80.

B. & F. are Sole Agents for CODD'S PATENT SODA WATER BOTTLE, in use in all parts of the world.

This Bottle for containing Aerated Waters is the most efficient of any yet invented, and is above all the one most appreciated by the public.

Prices, and all Particulars, upon application.

B. & F. are Sole Manufacturers for the "London-made" Syphon Bottle, preferred by the public to all others. It is the most simple in its working parts, therefore the least liable to get out of order; it is the most easily opened, the lightest pressure on the handle being sufficient; it produces a more highly charged gaseous water than is usually obtained from syphons; it compares most favourably in appearance with any.

Prices, per gross, quart size, 22/ per doz.; half, pint size, 21/ per doz. Packing extra.



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HAYWARD TYLER & CO.—SODA WATER MACHINERY,

HIGHEST AWARD,
MELBOURNE, 1881.

GOLD MEDAL,



PARIS, 1878.

HIGHEST AWARD,



MELBOURNE, 1881.

**GOLD
MEDAL
PARIS
1878.**

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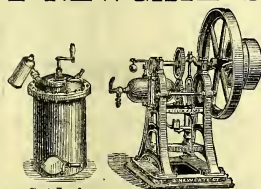
J. TYLOR & SONS,
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MANUFACTURERS OF

**SODA WATER
MACHINERY,**

To produce from 50 to 2,000
dozen per day.

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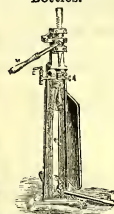


Cast Lead
Generator, with
Improved Slide
Cocks.

A. J. J. Tylor & Sons'
Soda Water Machine.
500 to 700 doz. per day.



Labour saving
Bottling Ma-
chines, with or
without Syrup
Pump, for Cork
or Stopped
Bottles.

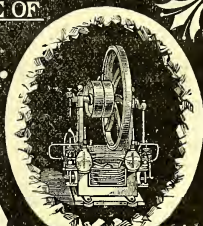


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SODA WATER.

COMPLETE PLANTS FOR LARGE
OR SMALL FACTORIES.

GOLD MEDAL



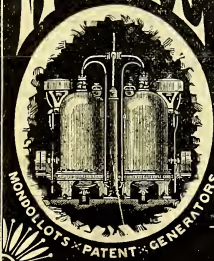
PARIS, 1878.

H. F. FAVARGER
WRITE

FOR MY NEW ILLUSTRATED
CATALOGUE, WHICH WILL BE
SENT FREE ON APPLICATION.

CATALOGUE

75 TURNMILL ST., LONDON.



MORLOTT'S PATENT GENERATORS.

Gas & Steam Engines, Boilers & Shafting,
Essences, Bottles, Boxes & all appliances.

CORRESPONDENCE INVITED, INSTRUCTION FREE.

A FEW REMARKS ON THE AËRATED WATER TRADE.

BY **N. G. WILCOCKS, BATH.**

Why should Chemists and Druggists buy Aërated Waters from other makers instead of manufacturing all they sell themselves? They cannot adopt a more appropriate Auxiliary Trade, nor is there one which is so sure to yield a good return on the investment, or so likely, if conducted with energy, to produce

A FORTUNE.

The consumption of Aërated Waters is vastly on the increase, and Chemists and Druggists can, if they will, retain the business in their own hands.

I ask any Chemist and Druggist who is willing thus to increase his income to communicate with me. I shall be happy

to advise with him respecting the erection of a plant, large or small, and will give him all necessary information to

START HIM IN THE BUSINESS.

I can also satisfy him, by the testimony of hundreds in the trade, that in dealing with me he will obtain just and honest treatment, and that the machinery I supply is of the soundest materials, constructed with the highest skill, and sold at the lowest possible rates of profit.

EASY TERMS OF PAYMENT.

All Machines sold in England and Wales can be had on my Easy Terms system. That is, the purchaser pays a certain sum monthly for the hire, and after two years the machine becomes his own property. The payments can be easily made out of profits, and when they are completed a profitable business will be established. No Gazette registration is required, and the transaction is strictly private.

COPY OF UNSOLICITED TESTIMONIAL.

From **W. C. HALLS, Chemist,
MINERAL WATER MANUFACTURER,
BRIDGE STREET, NEWARK.**

To **Mr. N. G. WILCOCKS,
BATH.**

Sir,—Unsolicited I must express my entire satisfaction with the Machinery you have lately supplied me with, viz.: the "Favourite," "Eclipse," Filling Rack, Syphon ditto. I think the "Eclipse" a splendid invention, and the waters are well charged. As a whole it is everything that can be desired, and I can recommend this size plant to any Chemist or Publican who consumes a reasonable quantity of waters, as the knowledge requisite to work it is so small. I have had nine years' experience in the trade, so feel confident to form an opinion. If this information is of any service to you, you may make use of it.

Yours respectfully,

W. C. HALLS.

N. G. WILCOCKS, ENGINEER, BACK STREET, BATH.

STEVENSON & HOWELL,

FELLOWS OF THE CHEMICAL SOCIETY, ETC.,

MANUFACTURING CHEMISTS, AND LICENSED COMPOUNDERS OF PURE

CONCENTRATED

SOLUBLE ESSENCES

ESSENCES FOR CORDIALS,

FRUIT ESSENCES, COLOURS,

AND ALL MATERIALS REQUIRED FOR THE PREPARATION OF

Pure Aerated Beverages, Liqueurs, Cordials and Syrups.

DISTILLERS AND IMPORTERS OF

ESSENTIAL OILS.

ANALYTICAL AND CONSULTING

SOLE AGENTS FOR
T. H. LARMUTH'S PATENT
CREME de ST. MICHAEL
CHAMPAGNES
And Concentrated Compound
Fruit Extracts.

Full particulars on application.

CHEMISTS TO THE TRADE.

1 ADDLE HILL, CARTER LANE,
LONDON, E C.

HAY'S SOLUBLE ESSENCE OF MESSINA LEMONS,

FOR THE PRODUCTION OF
THE FINEST LEMONADE.

Added in the proportion of one fluid ounce to each gallon of syrup, the soluble essence imparts the most delicious flavour of the Lemon.
—The Chemist's Journal.



The Essence mixes well with water, and has a delicate flavour. The Lemonade made therewith has a far more delicate flavour than that generally met with.
—The Chemist and Druggist.

Trade Price, 8/6 per lb.; 12 lbs. and upwards, 8'.

PREPARED BY

W. HAY, Manufacturing Chemist,
4 REGENT'S TERRACE, ANLABY ROAD,
HULL.

HAY'S GINGER CHAMPAGNE

CAN BE OBTAINED FROM THE SOLE AGENTS,

INGRAM & ROYLE,

119 QUEEN VICTORIA STREET, LONDON, E.C.,
AND BATH BRIDGE, BRISTOL.

Retail Price, in Half Champagne Bottles, 5/6 per doz.

This SPARKLING, EXHILARATING, and REFRESHING DRINK, while being far more agreeable in bouquet and flavour than the FINEST CHAMPAGNE WINE, is, at the same time, unlike it, FREE from ALCOHOL.

It is strongly recommended both for Juveniles and Adults, &c., as the most Wholesome Stimulating Beverage that has hitherto been introduced, and should be in every household during all seasons of the year.

Samarian Free Hospital, Lower Seymour Street,
Portman Square, London, W.

Dear Sir,—I have tried your Ginger Champagne, which I find to be excellent, and I look upon it as a step in the right direction towards meeting a long-felt want. Our Senior Physician, Dr. Henry Savage, has also tried it, and is much pleased with it. We ought long ago to have had such a beverage, and I believe that a great deal of drinking would thus have been prevented. I wish your effort much success.

I am, dear Sir, yours faithfully,
GEORGE SCUDAMORE, Secretary.

An excellent and most agreeable beverage.—*The Lancet.*

Made by Mr. Hay, of Hull, with his well-known SOLUBLE ESSENCE OF JAMAICA GINGER, takes rank as a PURE, WHOLESOME, STIMULATING, and NON-ALCOHOLIC beverage.—*British Medical Journal.*

One of the most delicate and wholesome drinks in the market.—*Medical Press.*



SOLE MANUFACTURER—

W. HAY, Chemist, &c., 4 Regent's Terrace, HULL.

JEWSBURY & BROWN'S MANCHESTER MINERAL WATERS,

PURE SODA, SELTZER, POTASH, LITHIA, &c.,
LEMONADE,
GINGER ALE, AND QUININE TONIC.

Prepared and Bottled specially for Export, and warranted to keep well.

Manufactured with the utmost care and by improved machinery, these productions are recommended for purity and excellence of quality by many leading members of the Medical Profession, and have for many years had a preference by the public; the flavour of the Lemonade and Ginger Ale being procured from the fresh Fruit and Finest Jamaica Ginger, they may be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially for invalids.

The Soda Water is absolutely free from any metallic impregnation, and being by improved machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying proportion of Pure Carbonate of Soda, J. & B. have every confidence in inviting a trial from those who have not already patronised them.

The Seltzer, Potash, and Lithia Waters are prepared with the utmost exactitude and the purest ingredients.

The New Quinine Tonic furnishes a pleasant form for the administration of a most valuable restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic and warm stimulant beverage.

N.B.—Every Bottle is protected by a distinctive Label, with Name and Trade Mark, and each Cork is branded.

Counter Bills and Analytical Reports, with Agents' Names and Addresses, supplied when requested.

JEWSBURY & BROWN, 44 Downing Street, 3 Grosvenor Street, and 113 Market Street, MANCHESTER.

SOLE WHOLESALE AGENTS FOR THE DOMINION OF CANADA: A. C. SMITH & CO., ST. JOHN, NEW BRUNSWICK.

A CERTIFICATE OF MERIT, for superiority of quality, was awarded to Jewsbury & Brown at the Exhibition of Sanitary Appliances, at Owens College, Manchester, on the occasion of the Meeting of the British Medical Association, August, 1877.

A CERTIFICATE OF MERIT awarded by the British Sanitary Institute of Great Britain, after a deferred PRACTICAL TRIAL AND EXAMINATION, July 4th, 1878.

Hunyadi János

CAUTION—Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Sole Proprietor of the Hunyadi János Spring, compel him to WARN the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

LAMPLOUGH'S EFFERVESCENT PYRETIC SALINE.



HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE;

It gives instant relief in Headaches, Sea or Bilious Sickness, and quickly cures the worst form of Eruptive or Skin Complaints. The various diseases arising from Constipation, the Liver, or Blood Impurities, Inoculation, the results of breathing air infected with Fevers, Measles, or Smallpox, are frequently prevented and certainly cured by its use.

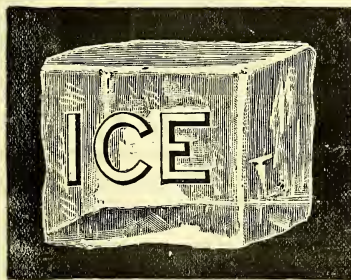
The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs. BARCLAY, EDWARDS, MAW, NEWBERY, SANGER, SUTTON, and the Wholesale Houses generally, ready to supply their wants. This Advertisement is found useful in consequence of the trouble, cost, and inconvenience in the keeping and collection of numerous small accounts. *Note.*—The Name, Trade Mark, Labels, Wrappers, &c., are all Registered and Entered at Stationers' Hall. 113 HOLBORN HILL, LONDON, E.C.



SPECIAL NOTICE—Medical Gentlemen having fever cases, and desirous of trying the Saline, can have a single bottle at wholesale prices by sending their cards.

FOREIGN MINERAL WATERS.

FREDERICKSHALL (5 Cases, 6d. per Case less), 20/8 Case, 30 bot.; 40/ Case, 60 1-bots.
 APOLLINARIS WATER, 25/- Hpr., 50 bts.
 30/- Hpr., 100 1-bts.
 Hampers free.
 5 per cent. discount if 20 Hampers.
 HUNYADI JANOS (10 Cases, 3/- and 5/- less), 30/- Case, 25 bts.; 50/- Case, 50 1-bts.
 SELTZER " " 11/- Hpr., 25 bts.
 " " 15/- Hpr., 50 1-bts.
 FULLNA " " 18/- Case, 20 bts.
 " " 30/- Case, 50 1-bts.
 VICHY " " 31/- " 50 bts.
 " " 27/- " 50 1-bts.
 CARLSBAD " " 37/- " 50 bts.
 KISSENGEN " " 42/6 " 50 "
 SCHWALLBACH " " 27/8 " 50 "
 HOMBURG " " 37/8 " 50 "
 WILDUNGEN " " 40/- " 50 "
 CARLSBAD SALTS, 1-Bots., 30/- per doz.; 1/2-Bots., 40/- per doz.; Bot., 80/- per doz.



NORWAY BLOCK ICE.

ORIGINAL BLOCKS, 2/ per Cwt.
 Packing and Mats Free.

PRINTED DIRECTIONS FOR STORING
 ICE sent free on application.

W. B. HARRISON,
 IMPORTER OF ICE AND
 MINERAL WATERS,

6 Bridge Street, Sunderland.

REGISTERED AT STATIONERS' HALL.

VALLET'S PATENT IMPROVED STOPPERED BOTTLES,

Fig. 2. For Mineral Waters and Gaseous Liquids,
 Are now used by upwards of 900 Soda Water Manufacturers in the United Kingdom.

PRICES (Per Gross).—Patent Stopper, as per Fig. 1, 4/6; ditto, as Fig. 3, 4/6; ditto, as per Fig. 4, 4/6; Patent Stoppered Bottles, ready for use, ditto Half Bottles, ditto; Patent Unstoppered Bottles; ditto Half Bottles; Fig. 5. Boxwood Bottle Openers, polished, 8/6; ditto, fitted with rubbers, 10/6; Common Wood Bottle Openers, 5/6; ditto, fitted with rubbers, 7/6; Fig. 10, New Bottle Opener, 6/-.
ROYALTY FREE.

Fig. 1.



Fig. 8.



Fig. 1 Stoppers, when invoiced separately, are ready fitted with the rubber washer on, and are easily inserted into the bottle by the simple pressure of the thumb, the washer at the same time folding in the hollow part of the stem when passing into the Bottle. It is the only Stopper which requires no foot to fit the Bottle with; and when a Bottle breaks, which seldom occurs, the Stopper is always fitted with this washer, ready to be inserted in a new Bottle. Therefore it is the most durable and inexpensive Stopper in the trade.

ADVANTAGES.—These Stoppers cannot break the Bottles. The smallest surface of indiarubber ever exposed to the liquid of any Stopper out. The Stoppers are inserted without trouble. No extra cost for Bottles. The Stoppers are cheap, very durable and particularly clean. The Filling Machine is not expensive, and quick in action. Any Filling Machine, however, will do. The Patentee guarantees the Stoppers perfect gasholders, therefore no leakage is possible. That Bottles may be opened, with or without an opener, by the pressure of the finger.

NOTICE TO THE TRADE.

It having come to my knowledge that certain parties conversant with the great and acknowledged superiority of my Patent Stopper, have so re-modelled theirs so as to constitute a clear case of infringement upon my rights, I wish it to be known that I intend to take such steps against the said parties as may seem desirable, should this notice not be effectual.

Sample and Particulars sent on application to

L. VALLET, 49 EVERTON RD., LIVERPOOL.

EXHIBITED AT THE AGRICULTURAL HALL EXHIBITION, LONDON, 1882.

SHELFANGER.

The Table Water—ad lib.—with Counteracting Proportions of Magnesian and Iron Carbonates.

The SHELFANGER has "a pleasant and invigorating effect, very different to the flat, nauseous taste of some natural waters offered to the public."—*Mineral Water Trade Review.*

For Trade Terms apply, **MANAGER, SHELFANGER SPRING, near DISS.** No Agents.

HONOURABLE MENTION,
International Food Exhibition, Agricultural Hall, London, October, 1880.

HAY'S SOLUBLE ESSENCE OF JAMAICA GINGER

(Guaranteed Pure and Free from Capsicum).

Trade Price, 5s. per lb.; 12 lbs. and upwards, 4s. 6d.

Highly adapted for the manufacture of *Transparent Aerated Waters*, and for all *Dietetic, Medicinal, and Pharmaceutical* purposes.

Medical Opinions on

HAY'S Soluble Essence of Ginger.

"Singulantly free from resin."—*The Lancet*.

"It should entirely supersede the official preparation of the British Pharmacopoeia."—*Medical Press*.

Medical Opinions on

HAY'S Ginger Champagne.

"An excellent and most agreeable beverage."—*The Lancet*.

"Made by Mr. HAY, of Hull, with his well-known Soluble Essence of Jamaica Ginger, takes rank as a pure, wholesome, stimulating, and non-alcoholic beverage."—*British Medical Journal*.



HAY'S Ginger Ale.

"It pours out with as fine a 'head' as any glass of ale, and possesses all the fine aromatic flavour of the pure ginger, without any trace of the stickiness which so often characterises inferior makes of ginger-beer. It is a beverage which is sure to win favour wherever introduced."—*The Chemist and Druggist*.

Medical and other Opinions on the

Ginger Beer made from HAY'S Soluble Essence.

"An excellent effervescent drink."—*The Lancet*.

"Fragrant to some wines we have tasted under the name of champagne."—*Medical Press*.

"Clear and transparent, and very pleasing to the palate."—*Medical Times and Gazette*.

"Has the purest Jamaica Ginger aroma, and ought to attain great popularity."—*The Chemist and Druggist*.

THE COMPOUND ESSENCE

(Guaranteed Pure and Free from Capsicum).

This Essence, which is an addition of **VANILLA, LEMON, and OTHER FLAVOURS** to the above, is strongly recommended for the manufacture of **Ginger Beer, Wines, &c.**, to which it imparts with the **Ginger a Peculiarly Fine Fruity Flavour and Aroma.**

Trade Price, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

THE COMPOUND FORTIFIED ESSENCE

Specially adapted for the Manufacture of the **FINEST**

GINGER ALE.

This Essence is strongly recommended for the manufacture of the finest **Ginger Ale and Ginger Beer**. It imparts, with the exquisite **Ginger Aroma** of the first-mentioned Essence, a peculiarly fine fruity flavour combined with the fullest amount of fragrance and pungency.

Trade Price, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

HAY'S GINGER ALE ESSENCE,

HIGHLY CONCENTRATED.

This Essence is a complete *Bouquet* of the finest *Ginger, Lemon, and other flavours*, in a highly concentrated state.

Ginger Beer and Ginger Ale made with this Essence will possess an amount of **Aroma, Flavour, and Quality** that have hitherto been without precedent, and that will be sure to command a large sale.

THE COST IN MANUFACTURE IS ABOUT ONE FARTHING PER DOZEN BOTTLES.

Trade Price, 9s. per lb.; 12 lbs. and upwards, 8s. 6d.

GINGER ALE EXTRACT

SUPPLIES PUNGENCY, AROMA, COLOURING, AND FLAVOURING

This Extract is strongly recommended for the manufacture of **Ginger Ale**, to which it imparts an unusually **Fine Flavour and Great Brilliance**, at a cost of a little under 1d. per dozen bottles.

Trade Price, 4s. 6d. per lb.; 12 lbs. and upwards, 4s.

PREPARED BY

W. HAY, Manufacturing Chemist, 4 REGENT'S TERRACE, HULL.

Agents—Messrs. **HEARON, SQUIRE & FRANCIS**, Wholesale Druggists,
5 COLEMAN STREET, LONDON, E.C.

W HAY CAUTIONS THE TRADE against the use of those spurious so-called **SOLUBLE ESSENCES** which, besides having **NO GINGER AROMA**, are **FLAVOURLESS, RANK, and DISAGREEABLE**, and are little more than **TINCTURES OF CAPSICUM**.

CELEBRATED

D. FÈVRE SELTZOGÈNES AND POWDERS

For immediate production of Soda Water, Eau de Vichy,
Sparkling Lemonade, and Aerated Wines.

D. FÈVRE, 398 RUE ST. HONORÉ,
PARIS,

Sole Inventor & Proprietor of the Article and Name "SELTZOGÈNE,"

THESSIER-FÈVRE, Son-in-Law, Manufacturer.

WHOLESALE PRICES.

D. Fèvre Seltzogene.	Celebrated	3 pint, wire covered..	12s. 0/2, each.
		3 pint, cane covered..	12s. 6d. "
		5 pint, wire covered..	18s. 0d. "
		5 pint, cane covered..	19s. 0d. "
		8 pint, wire covered..	30s. 0d. "

Liberal discount allowed.

Case and Packing..	12 Seltzogenes, 3 pint size	4s. 0d. net.
"	" " 12 "	5s. 8d. "
"	" " 6 "	9s. 6d. "

D. Fèvre Powders for the Seltzogenes.	Celebrated	3 pint, per doz. boxes of 12 charges,	24s. 0d.
		8 "	35s. 0d.
		8 "	60s. 0d.
Pure Tartaric Acid and Bicarbonate of Soda in the highest state of perfection.		3 pint, per doz. boxes of 10 charges,	29s. 6d.
		5 "	30s. 6d.
		8 "	45s. 2d.

Liberal discount allowed.

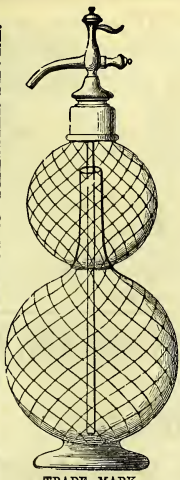
**EXTRA:—Taps, Tubes, Valves,
Washers, &c.**

DIRECTION FOR REPAIRS.

D RIP CATCHERS, FITTINGS, MEASURES, &c.

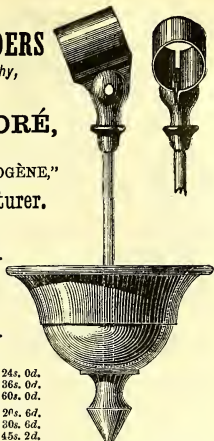
ALL MY GOODS ARE TESTED.

ILLUSTRATED CATALOGUE FORWARDED FREE.



TRADE MARK.

S. Fèvre
REGISTERED.



D RIP CATCHERS
for
D. FÈVRE SELTZOGÈNES.
8s. 6d. per dozen.

Registered April 1, 1879,
No. 333,951.

THESSIER-FÈVRE,
SOLE MANUFACTURER.

"FOUR FIRST-CLASS MEDALS AWARDED"

For very superior quality, make, and special excellence in finish.

THE BRITISH SYPHON

EUGSTER & KOERTGEN, MANUFACTURING CO.
PROPRIETORS.

2 GRESHAM BUILDINGS, LONDON,

Works:

Wickham St., Lambeth,
E.C.

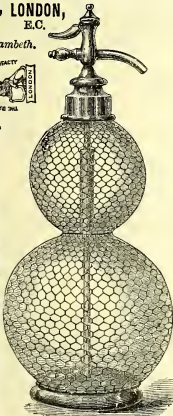


Specimen of Trade Mark engraved on the Syphon Bottles by the acid process at 1 1/2 and 2 1/2 per bottle extra.

Name stamped on the metal top free for order of one gross.

IMPORTANT.—In ordering our Seltzogenes through Agents, distinctly state the name of the brand, and see that you get it as other inferior are substituted.

GUARANTEED PURE AND OF FIRST-CLASS WORKMANSHIP.



SYPHONS.

Short Lever..	29/6 per doz. net.
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Porcelain stands .. each 20 0	
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5-pint ditto .. 30 0	25 0
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Packing in Casks, 5/ per gross.

The Name marked on the metals free of charge
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2/6 per dozen extra.

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For full Notes and Reports see front pages of THE LANCET, March 31st.

KEPLER EXTRACT OF MALT.

THE LANCET says of the Kepler Extract of Malt: "The best known, and in this country the largest used, Extract of Malt. It is as distinct an advance in therapeutics as was the introduction of cod-liver oil. It is one of our best remedies for atonic dyspepsia, and is undoubtedly useful in consumption and other wasting diseases." And further adds, "It is very good, and may be used with confidence."

For full Notes and Reports see front pages of THE LANCET, March 31st.

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An important improvement has been made, which now renders the most offensive and repulsive drugs easy of administration. This improvement consists in perfectly sealing with a thin transparent capsule of gelatine all drugs, such as quinine, morphia, rhubarb, &c., also the various pills and powders of the Pharmacopœia. These capsules are of an ovoid shape, and it has been demonstrated beyond question that when ordinary coated pills are rejected by patients there is not the slightest difficulty in administering this new form.

For full Notes and Reports see front pages of THE LANCET, March 31st.

KEPLER COD-LIVER OIL WITH EXTRACT OF MALT.

This is an emulsified combination of the purest fresh Norwegian Cod-Liver Oil with 50 per cent. of Extract of Malt (Kepler).

So combined, the oil is subdivided into minute particles, which can be seen under the microscope to be as fine as the granules of milk, and so much finer than any that can be obtained by any emulsion with gums. On the fineness of the emulsion depends the digestibility of the oil. "The digestive change undergone by fatty matters in the small intestine consists mainly in their reduction into a state of emulsion, or division into infinitely minute particles."

For full Notes and Reports see front pages of THE LANCET, March 31st.

THE BURROUGHS BEEF AND IRON WINE.

"This is a really valuable preparation, and, as far as we know, a novelty. It contains beef-juice and citrate of iron in solution in wine, and is therefore a very powerful and rapidly-acting tonic. Children, as well as adults, take it easily, and as its taste is by no means unpleasant, it can hardly fail to attain great popularity. In many cases of scrofula and rickets we have given it with the most gratifying results."—THE LANCET Reports.

For full Notes and Reports see front pages of THE LANCET, March 31st.

LAWTON'S ABSORBENT COTTON

"Has been pronounced by some of our most eminent surgeons the very best absorbent for taking up discharges; it is very fine and soft, and acts instantly."—THE MEDICAL PRESS AND CIRCULAR.

For full Notes and Reports see front pages of THE LANCET, March 31st.

THE WYETH COMPRESSED TABLETS



"Are a great improvement on the hard, unpalatable lozenges which have so long done duty in the Pharmacopœia. The Chlorate of Potash and Chlorate of Potash and Borax will be found useful in throat affections, whilst the Bicarbonate of Potash and Bicarbonate of Soda Tablets will prove efficacious in dyspepsia. The Soda Mint, or Neutralising Tablets, will earn the gratitude of many a flatulent dyspeptic."—THE LANCET.

For full Notes and Reports see front pages of THE LANCET, March 31st.

HAZELINE.

THE MEDICAL PRESS AND CIRCULAR reports:—"Hazeline is a valuable astringent remedy, wonderfully efficacious in checking *internal* or *external* hemorrhages, and for *alleviating inflammation*. It is particularly valuable in the treatment of *bleeding piles*, and as a *surgical dressing* it deserves attention."

For full Notes and Reports see front pages of THE LANCET, March 31st.

THE WYETH SOLUBLE COMPRESSED HYPODERMIC TABLETS.

The following formulae and combinations embrace all those in general request. Others will be added as the demands of the profession warrant.

We claim for the Wyeth Hypodermic Tablets:

ABSOLUTE ACCURACY OF DOSE.
READY AND ENTIRE SOLUBILITY.
PERFECT PRESERVATION OF THE DRUG.

Their convenience and utility will at once be apparent on examination.

Morphine Sulphas ..	1-3 grain.	Morphine Sulphas ..	1-8 grain.
Morphine Sulphas ..	1-4 grain.	Atropine Sulphas ..	1-200 grain.
Morphine Sulphas ..	1-6 grain.	Morphine Sulphas ..	1-12 grain.
Morphine Sulphas ..	1-8 grain.	Atropine Sulphas ..	1-250 grain.
Morphine Sulphas ..	1-12 grain.	Atropine Sulphas ..	1-60 grain.
Morphine Sulphas ..	1-3 grain.	Atropine Sulphas ..	1-100 grain.
Atropine Sulphas ..	1-120 grain.	Atropine Sulphas ..	1-150 grain.
Morphine Sulphas ..	1-4 grain.	Strychnine Sulphas ..	1-60 grain.
Atropine Sulphas ..	1-150 grain.	Strychnine Sulphas ..	1-100 grain.
Morphine Sulphas ..	1-6 grain.	Strychnine Sulphas ..	1-150 grain.
Atropine Sulphas ..	1-180 grain.		

For full Notes and Reports see front pages of THE LANCET, March 31st.

THE WYETH DIALYSED IRON.

1. It is easily administered, the dose being very small.
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3. It does not irritate the stomach.
4. It has no effect on the bowels, producing neither constipation nor diarrhoea.
5. It does not blacken the teeth.

In ordering please specify *Fer. Wyeth 3 oz. with Dropper.*

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All the articles mentioned on this page may be obtained from respectable Dispensing Chemists and Wholesale Druggists in every part of the world, or from the European Depot of Burroughs, Wellcome & Co., Snow Hill, London, E.C. Our new Formulae Book and Trial Specimens of any of our Preparations will be sent to any member of the Profession upon request.

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1/8 3/	2/6 4/6	2/ 3/8	2/ 3/8
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Does not corrode Steel Pens.

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Is cleanly to use, and not liable to blot.

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In Jars, 6d., 1s., and 2s. each.

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See "CHEMIST AND DRUGGIST," December 15th, 1874.

PANCREATINE (IN POWDER OR GRANULES).

Represents the entire properties of the PANCREATIC JUICE, and is the only preparation for effecting the digestion and assimilation of fats, solid and liquid, such as cod-liver oil, &c., starch, and albuminoids. Dose, 3 to 5 grains, in water, milk, wine, arrowroot, &c., &c.

PANCREATINE WINE. An excellent vehicle for taking Cod-liver Oil, and promoting the digestion of it. Dose, 1 drachm.

PEPSINE PORCI AND WINE. "Your Pepsine is possessed of considerably more digestive power than that of any other description of Pepsine."—*Dr. Lethaby.* Supplied in bulk or small bottles.

PEPTODYN. A Combination of the whole of the Digestive Secretions—Pepsine, Pancreatine, Diastase, or Ptyalin, &c., forming a valuable remedy in the treatment of all forms of dyspepsia, and all diseases arising from imperfect nutrition. Dose, 3 to 5 grains.

THE BEST COD-LIVER OIL. The palest in colour, the purest and most palatable kind in use.

COD-LIVER OIL. Combined with Alkaloids, Medicinal Salts, and other medicinal substances capable of solution in Cod-liver Oil.

PANCREATIZED (DIGESTIVE) COD-LIVER OIL. By combining the Pancreatic Juice with the Oil, the digestion of the latter is easily and rapidly effected, nausea is prevented, and the beneficial properties of the Oil are increased. Dose, 1 to 4 drachms.

PHOSPHORIZED COD-LIVER OIL. Was introduced to the Profession by Messrs. SAVORY & MOORE. The advantage of this (the ORIGINAL) preparation over the imitations of it consists in the ability to administer a sufficient dose of Phosphorus without the admixture of a large quantity of Cod-liver Oil. Dose, 1 to 2 drachms. Supplied in bulk or small bottles.

PHOSPHORUS PILLS. 1-32nd of a grain, or any strength required, non-resinous, and perfectly soluble.

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AND SOLD BY CHEMISTS EVERYWHERE.



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General Post Office.

THE CHEMIST AND DRUGGIST is supplied regularly by arrangement with
their respective Councils to all members of the following societies:—
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The Pharmaceutical Society of New Zealand.

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CORNER FOR STUDENTS.

OUR report of the last competition will appear next month.
For the next exercise in qualitative analysis we offer to
send samples of a metallic alloy. The alloy is to be sub-
mitted to a complete systematic examination, designed to
detect all its constituents and to demonstrate the absence
of other substances. A list of the metals detected is to be
given, distinguishing those that are present in quantity from
other constituents.

Applications will be received up to May 20, and portions
of the alloy will be sent to applicants on the 25th.

Students' reports will be received up to June 15.

In reply to questions often received from intending com-
petitors, we may say that we fix no standard of age or
qualification for those who wish to enter for these analyses.
That has proved to settle itself. Neither do we establish
any rules as to the length or style of the reports. Students
will presumably describe their discoveries in the clearest
manner of which they are capable. We do stipulate, how-
ever, that the dates we fix be observed, we cannot supply
duplicate samples, and we cannot enter into private corre-
spondence respecting the analyses.

The pharmaceutical and trade meetings next week will be
as follows:—On Tuesday morning, May 22, the general
committee of the Chemists and Druggists' Trade Association
will meet at the Inns of Court Hotel, Holborn, at 11 A.M.; and
the meeting of the Association itself will be held at 12 for
12.30 P.M. of the same day, in the banqueting-room of the
same hotel: all chemists are invited to this meeting. On
Tuesday evening, May 22, at 6.30 P.M., the annual dinner of
the members and friends of the Pharmaceutical Society will
be held at Willis's Rooms, Mr. Carteighe, president of the
society, in the chair. We understand that the Lord Mayor
and the sheriffs of London have accepted invitations to this
dinner, and we believe an unusually large company is
expected. Gentlemen wishing for tickets should apply for
them to Mr. R. Broombridge, 17 Bloomsbury Square, not later
than Saturday next. The next day, Wednesday, May 23,
at 11 A.M. for 12 noon, the annual meeting of members of
the Pharmaceutical Society will be held at 17 Bloomsbury
Square. On the evening of the same day (Wednesday,
May 23), at 8 P.M., a *conversazione* of the Pharmaceutical
Society will be held at the South Kensington Museum: a
card of admission to this may be obtained from the secre-
tary by any chemist and druggist on the register.

As we report on another page the remarks made by some
members of the Pharmaceutical Council in reference to the
acceptance by the professors of that society of the task of
editing a new pharmacopœia, it is fair to the latter to state that
a letter over their signatures is published in the last number
of the *Pharmaceutical Journal*, in which they maintain that
those remarks are not justified by the facts of the case.
They point out that one of their number (Dr. Redwood) has
occupied the position of editor of the *Pharmacopœia* for the
last eighteen years, and that during that time nothing has
ever been said to indicate that he had done wrong in accept-
ing or retaining the office; that on this occasion he desired
to be relieved of a part of the duties, and preferred as
associate editors his colleagues in Bloomsbury Square; that
the appointments made by the sub-committee of the Medical
Council were only provisional, and that they were not at
liberty to make the fact public, partly on that account, and
partly because it was understood that the Medical Council
would communicate the arrangements made to the Pharma-
ceutical Council when they invited their co-operation.

INLAND PARCELS POST.

THE Postmaster-General has published a notice that, on
August 1 next, he will be prepared to accept at any post-
office in the United Kingdom parcels intended for trans-
mission by the inland-parcels post, under the following
general conditions, viz.:—Weights and postage.—For an
inland postal parcel, not exceeding 1 lb., the rate of postage
(to be prepaid in ordinary postage stamps) will be 3d.;
exceeding 1 lb. and not exceeding 3 lbs., 6d.; exceeding
3 lbs. and not exceeding 5 lbs., 9d.; exceeding 5 lbs. and
not exceeding 7 lbs., 1s. Dimensions.—The dimensions
allowed for an inland postal parcel will be—maximum
length, 3 feet 6 inches; maximum length and girth com-
bined, 6 feet. Examples.—A parcel measuring 3 feet
6 inches in its longest dimension may measure as much as
2 feet 6 inches in girth—i.e., around its thickest part; or
a shorter parcel may be thicker—e.g., if measuring no more
than 3 feet in length it may measure as much as 3 feet in
girth—i.e., around its thickest part.

The regulations under which certain articles are prohi-
bited from transmission by the letter post will—with a few
exceptions—apply equally to the parcels post. For instance,
gunpowder, lucifer matches, anything liable to sudden com-
bustion, bladders containing liquid, and live animals will be
excluded from the parcels post. But glass bottles, fish,
game, meat, and all other articles not above mentioned,
now excluded from the letter post, will be admitted to go
by parcels post conditionally upon their being packed and
guarded in so secure a manner as to afford complete protec-
tion to the contents of the mails and to the officers of the
Post-office. Full particulars will be published in a subse-
quent notice.

Pharmacalia.

MICROSCOPIC WORK.

A PRESIDENTIAL address, delivered by Professor P. Martin Duncan at the annual meeting of the Royal Microscopical Society, is worthy of special mention. So many pharmacists are interested in this class of investigation that they will read with advantage the valuable explanations on how to work with the microscope and the best forms of apparatus to be used. It is evident that a large amount of intelligence and knowledge is required in its management, which is the result of labour, thought, and experience. But a man who has invested a certain number of guineas imagines that he is correspondingly endowed with the abilities of a microscopist in the true sense of the term. Some, on the other hand, rest content with inferior apparatus, and think that they see the truth invariably. Great benefit accrues from being the member of a society where those who constantly use the microscope in original research offer communications on imperfections and corrections which their own personal manipulation has suggested. By all means indifferent instruments should be rejected and attention should be paid to improved practices which are constantly being described. Frequently an observer fails to see what some previous experimenter has remarked, and this is clearly more the fault of the instrument than of the operator.

The Professor then, who is no mere mechanical teacher, points out some causes of unsuccessful work. Transmitted light is used in a manner exactly opposite to the laws of illumination when the eye is unaided. Observers get all the light possible from a reflecting surface. There is an exact relation between the possibility of seeing the half and lower tints, and of searching the depths of shadows, and the intensity of the light entering the eye. Only outlines are well shown as sky lines, or when a brilliant light is passed around and through the body examined. Yet a pleasant evening with the microscope often means a painful time for the eye. A good glare of light seems essential to the beginner; while the advanced microscopist never uses more light than he absolutely requires, and increases and diminishes the illumination during the careful observation of an object, not only by employing a less intense source of light, but also by using diaphragms of different sizes. Into the various latent causes of error and the way in which they may be overcome it is not desirable to enter here, but we would strongly commend the reading of the address to those whom it may concern. Yet we cannot omit the remarks upon the electric light, and its relation to this mode of investigation. No one can ever have been present at a *soirée* where microscopes formed the chief object of display without having experienced a most uncomfortable sensation of heat. This arises from the fact that there are exhibited as many illuminating lamps as there are microscopes. This combined glare is peculiarly distressing; nor is it a less infliction to examine microscopic specimens with such powerful illuminators. The coolness, as well as the brilliance of the electric light, make it specially serviceable; and, in addition, the possibility of directing it readily in investigating opaque objects by means of high powers with reflectors within objectives; and in moving around opaque objects which are well in focus under low powers, and whose surfaces are difficult to define under ordinary circumstances in a short time and with the usual appliances. That the dangerous and offensive rock-oils may thus be abolished is a consideration of no secondary value.

A new future is predicted for the microscope in the study of disease. It may happen, says Professor Duncan, that now

the microscope has shown the minute bodies which accompany disease, and may produce it, it may lead to the discovery of the remedies.

Competition in this line of research is endless, and new methods are constantly invented. They are great additions to science, and may be the beginning of a new era in the profession.

THE PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 1882.

We have received by favour of the Secretary, Professor John M. Maisch, the Proceedings of the American Pharmaceutical Association, together with the Minutes of the thirtieth annual meeting, held at Niagara Falls, under the Presidency of Professor F. W. Bedford.

Of the handsome volume in which last year's transactions have been chronicled, we have but few remarks to offer, leaving to others more detailed criticism; but it would be an injustice not to acknowledge or draw attention to the remarkable Report on the Progress of Pharmacy contributed by Professor C. Lewis Diehl. We are not acquainted with any equal or similar production, the task being executed in a manner which excludes it altogether from the term of a compilation. More than four hundred pages are consecrated to the work which, in admirable abstract, the value of which is enhanced by a copious index, presents a survey of what has been done in pharmacy during a period of twelve months.

The author intimates a design of still further improving on his method in a future year, an attempt which, in our opinion, he has rendered impossible.

We have now to turn to another document which proved a shade too much for the Association, and has had a like influence on ourselves. A Study of Percolation conveys the least information in the largest quantity of words. We have read through Voltaire's "Henriade," being, as far as we know, the only living person who has accomplished that feat—but we were not well, and wanted to learn French. We have also waded through these twenty-five pages on Percolation, and, without vanity, they have not added to our previous knowledge. The author seems for ever to arrive at some well-worn platitude, to which no one will take exception, and to propound it with all the solemnity of an oracle. With no wish to be either hypercritical or sarcastic, we may be allowed to ask, What is the new point defined? What variety of process is indicated with which men like Parrish, Procter, and others have not made us familiar, or which pharmacists endowed with ordinary common sense are not in the habit of employing as necessity may arise? Good Henry Deane, a British pharmacist, has said much the same things in comparatively half-a-dozen words; and the author need not state in windy generalities that different substances necessitate different modes of operation. Here is a sentence to read before a scientific meeting:—"Around the walls of a fort that does not easily surrender the army of progress is fighting. Pharmacy has been called to the assault repeatedly, and not in vain. Constantly gaining ground, she has yet many a trench to dig and many a height to climb ere she can reach the citadel and add to her lists of conquests the proud name of Percolation." *Sic ad lib.* We are now bidden to "prepare for the assault," and find that the prime object of percolation is solution, and just before, that this is the *only* object, which is not true. Percolation is intended to extract the solution of certain substances in a manner more rapid and convenient than that obtained by other processes, but equally as effective.

No one will question sentiments like the following—"One of the tests of merit in the condition of powder must be the

ability to retard the menstruum just enough in its passage to fully exert its influence upon the contents of the cells before allowing the fluid to pass" (printed in italics). Again—"Within certain limits there are means by which the fluids can be retarded without resorting to the use of a very fine powder." The thought becoming now too deep for common type, italics are once more in requisition. "*If we can compress the coarser particles together enough we can have spaces between particles smaller than with more comminuted powders not so tightly pressed* (p. 531). This is much what we should have ventured to suppose without overtaking the reflective powers. Similar elaboration of truisms leads us wearily through many subsequent pages; and should our estimate be considered overdrawn we would ask the reader to consult the printed paper for himself. But as the longest lane is stated to have a turning, we come to a passage which affords relief—"We are" (says the author) "drawing to a close." Twelve condensed rules are given by way of summary, most of which must have suggested themselves to an assistant of ordinary intelligence. Percolation should be effected with the minimum quantity of solvent; in cell percolation the fineness of powder must be adjusted to the menstruum; the percolating vessel should be selected according to the advantages it possesses in assisting in general or special cases the process of percolation. Quite so. This is not the way to write Pharmacy; nor is it in accordance with the traditions of the excellent work we are accustomed to receive with great pleasure, and even greater profit, from the United States.

* *

PROFESSOR BENTLEY AT THE ROYAL BOTANICAL GARDENS.

On Saturday morning, May 5, at the customary hour of eight o'clock, Professor Bentley resumed his practical demonstrations of botany at Regent's Park. The lecture as usual took place at the rustic Museum close by the main entrance, and was delivered before an audience of more than fifty students. Several ladies occupied the front row, and the room was nearly filled. It was pleasant to observe that old pharmaceutical names were represented by the successors of men whom we all hold in honour, and whose sons bid fair to emulate their father's fame. The traditions of Leeds, Birmingham, and Norwich seem likely to be continued.

The Professor, wisely we think, varied the text of his introductory discourse by giving a few historical details relating to the past. It was always grateful, he observed, to be able to say, "Ladies and gentlemen," for surely they might well be associated in the pursuit of knowledge. It was a good thing to have faith in one's teacher, and he held that he was correct in having said beforehand that the weather would be appropriate to the occasion. The day was certainly of a hazy character; the mist was on the garden, and clouds were in the sky. This was but typical of their present knowledge—from it, as from the atmosphere, the haze would soon disappear, and the intellectual, like the natural, sun would welcome them ere long. In 1842, more than forty years ago, he attended the first course of botanical lectures by Anthony Todd Thomson. It was to him a peculiar pleasure to remember that the first prize ever awarded by the Society was awarded to Robert Bentley, and this circumstance had a guiding effect upon his whole after-life. In 1849 he became Professor, and had so remained till now. The pleasure and privilege of teaching had been permitted to him for so long a time, and during that period he had never had one serious complaint against a member of his class. He could say that advisedly, for as chairman of the Garden Committee any delinquency must have been reported, and brought before his notice.

He would caution them against misplaced enthusiasm; the gardens were not the spot for athletic sports, valuable as these were in their right place. There, they must strive manfully and solely for information. During a course of lecturing which had now reached to thirty-four years many distinguished students had passed through his hands. They had made for themselves a reputation in different ways. To three only could he allude that morning. First he would mention Michael Carteighe, who had sat on those benches, and who was now the President of the Pharmaceutical Society. Next he would refer to Henry Bowman Brady, who had attained to excellence in scientific pursuits, and last not least, was one of the Examiners. Lastly he would point to Professor Attfield, who had so largely advanced the interests of pharmacy, and whose career it was unnecessary to describe. What these men had done they could do also, and their persistent studies might be crowned with similar success.

Reverting to the more immediate subject of the lecture, Professor Bentley continued that the entire gardens, not only outdoor plants, but the rarer specimens in the conservatories, were thrown open to the students. Such advantages being granted should not be abused. The students were asked in no way to interfere with the work of those employed, particularly as they would meet with every attention and assistance from Mr. Higgins; the flowers were for study, and not for button-holes; and even the lecture-table was not inconsiderately to be despoiled.

The course now proceeding was limited to practical botany—its name showed the one way in which it could be followed with profit. No man, in a certain sense, could teach; he could only direct how to learn. As in chemistry they must work out their theories practically by test and experiment; so in botany they must themselves study and examine flowers. For ten weeks he should have to superintend these personal endeavours, and indicate the best methods of research.

Plants, then, had a number of parts, called organs—such were the root, stem, leaves, parts of flowers, fruit, and seed. All shared in the life of a plant, and performed their respective functions.

Internal structure was termed histology, and with that they had been occupied at the Square. They were now concerned with external forms, and their mutual arrangement, a study which was termed morphology. The root presented no great varieties, though close attention had occasionally to be exercised, as in distinguishing aconite root from that of horseradish; still, the forms of roots were few. Stems, having compact tissues, had no marked peculiarities, and for these ordinary descriptive words were used.

The great organ was the leaf, and it demanded special study. Its structure being both woody and soft, its modes of arrangement differing so widely, its surface offering for exposure so broad an expanse, alike contributed to make its characters and their modifications important. Its shape, form, insertion, and margin occurred in infinite variety, and were typical of all the other organs of plant life. The student might consider the leaf typical of himself; like it he should gather knowledge imperceptibly, and use his assimilated stores for himself and others, and as storage for the future.

The leaf had certain characters. The plan adopted at the present was to distinguish between Foliage leaves, Scales, and Bracts, the latter being floral leaves. Quite a system of nomenclature had to be employed, and terms such as nodes, internodes, axillary (extra, supra, or infra), with others, were in constant use. Other characters depended on persistence, as evergreen and deciduous, or on the mode of

separation from the stem: thus the ash was left quite bare, but the oak retained its brown-coloured, withered leaves. Classification lingered upon this fact, for the dicotyledons were generally articulated, when the leaf fell off; monocotyledons and acotyledons were generally non-articulate, as in the palms. The oak formed an exception.

The parts of the leaf were the blade or lamina, the petiole or leaf stalk, and the stipules. Leaves were simple or compound, and three particular characters had to be studied in sequence—Insertion, Arrangement, and Venation.

This brought the lecture to a close, and, sure enough, the sun made an effort to brighten a particularly cheerless morning, and to dispel the damp coldness which was far from exhilarating. Long may it shine upon the Professor, and justify his firm conviction that it is its special duty to welcome the students who meet annually under his direction at the Regent's Park!

THE STUDY OF SEAWEEDS.

What shall we say of the Royal Botanic Society, whose Quarterly Record has just come to hand?

The Secretary has been cultivating seaweeds, and has burst into poetry at the same time. He writes:—

"The home of Englishmen being an island, bathed on all sides in the sea, proverbially the domain of the sons of Britain, and over whose foaming billows she is said to rule, it is somewhat remarkable that the flora of this watery kingdom has been so little studied in comparison with that of the dry land."

He uses a saturated solution of bay-salt in water, with 4 grains of mercuric chloride to 1 quart of water. The specimens, with one or two exceptions, remain exactly as when first placed in the fluid, and exhibit all the beauties of form and structure of the living plant. The experiment being so far successful, it was attempted to cultivate the seaweed artificially. Seawater was first obtained from Lowestoft, and afterwards from Weymouth, and the report is most satisfactory. Large quantity of gas is given off from healthy specimens, but none from the dead individual.

Researches on the

DESTRUCTION OF WEEDS

In gravel walks have been continued. Common salt at first is effective, but in a few months acts as a powerful manure. The action of carbolic acid is still under consideration; but dilute sulphuric acid as yet bears the palm. The aid of the sister art of chemistry was not invoked, and the tinned rose of the watering-pot came speedily to grief. A rose of thin sheet German silver having been substituted, affairs proceeded more hopefully, and the instrument, we are informed, "is still in existence." We would invite visitors from the country, when they have heard Mr. Sandford discourse on politics, and amended clauses, to repair for an hour to these lovely gardens. To them they may appear no special boon, but they will understand how singularly restful and attractive they must be to those pent up continually in our great metropolis.

PLAYING WITH FALSE TEETH.—A London correspondent says:—At a recent card-party at the house of a popular London dentist, the counters used were false teeth. At first the ladies present seemed very sensitive about touching the little white heaps, but as the evening wore on the more false teeth each fair dame possessed the happier she seemed. When the counters were totalled up at the end of the game, there were only three more than had been originally given out.

The Pharmaceutical Council.

At the meeting of the Council on May 2 twenty members were present, Mr. Michael Carteighe, President, in the chair. The one member absent was Mr. P. W. Squire.

Certain members, associates, and apprentices were elected, and the following persons had their names restored to the register, they having each made the necessary declarations and paid a fine of one guinea:—

Edwin John Frith, 50 Westminster Bridge Road, London, S.E.

Nathan Moore Green, 34 Fox Street, Liverpool.

George Francis Hart, 53 Albert Row, Southwick, Sanderland.

FINANCE.

The question of investment in ground rents was considered in Committee, and the Council also went into Committee to consider the regulation under which members who leave the Society and desire to rejoin it are subject to a fine. This question was referred to the Library, &c., Committee.

BENEVOLENCE.

The Council voted from the Benevolent Fund, on the recommendation of the Committee, three grants of 10*l*. each and one of 20*l*., the latter sum to assist the widow and daughter of a late associate to emigrate, providing a certain additional sum should be raised by their friends.

The Library, Museum, Laboratory, and House Committee submitted the usual reports from the librarian, the curator, and the professors. Various contributions to the library and museum were recorded, including a complete and valuable collection of barks and of herbarium specimens of the cinchona trees cultivated in Madras from the Secretary of State for India. The new regulations for

THE PRELIMINARY EXAMINATION,

referred to last month, were now submitted in complete form, the object being to arrange for the division of the examination into two periods, one of three hours for Latin and Arithmetic, and, after an interval, one of one and a half hour for English. The subject of

VISITORS TO THE MUSEUM

had been considered, and the Committee advised that a paragraph should appear in the Calendar, stating "Persons not connected with the Society who are desirous of obtaining admission to the museum should make application to the Secretary." The intention of this proposal was afterwards made clear by Mr. Symes, who thought it would be satisfactory if it were known that any person within reasonable limits might gain information from the library and museum.

THE BRITISH PHARMACOPOEIA.

The report gave details of the Committee's efforts to get the Lord President of the Privy Council to insert some words in the Medical Acts Amendment Bill, which would give pharmacists a representative position on the Committee appointed for compiling and revising the Pharmacopoeia. The President had written to the Lord President explaining that pharmacists were legally appointed on the Pharmacopoeia Commissions of all European countries, and were even in a majority in the United States. Their claim was supported by many members of the medical profession, and by articles which had appeared in the medical press. The request was also urged on the ground that both the Pharmacy Act and the Sale of Food and Drugs Act recognised the Pharmacopoeia as declaring the standard of purity. He (the President) asked for a personal interview, which was granted, but the report stated that Lord Carlingford was not disposed to agree

to the principle of the proposed alteration of the Medical Bill. The Committee recommended that arrangements should be made for a deputation to interview members of the House of Commons on the subject.

The report came in this form before the Council, whereupon Mr. GREENISH first directed attention to the report which had been published in the medical journals, from which it appeared that Professors Redwood, Bentley, and Atfield had accepted the task of preparing the new edition of the Pharmacopœia from the Medical Council. It was with a feeling of great humiliation that he saw there was to be a new edition of the Pharmacopœia brought out without any official reference to the Pharmaceutical Society at all; and it was to his great astonishment that he found the three professors of the Society had been engaged more or less in this work since November 7, six months ago. Those gentlemen held chairs endowed by the Society, and it seemed to him that they were scarcely loyal to the Society, knowing as they did that this subject had been constantly under discussion, in not giving some official intimation that they were engaged on this work. He hoped that the House of Commons would be flooded with petitions asserting the just claims of pharmacists to direct influence in the preparation of any future edition of the national Pharmacopœia.

To Mr. HAMPSON it was a sad thing to think that their object might be damaged by the Society's own professors. Those gentlemen seemed to be interested in keeping things as they were. If they had had the interest of the Society at heart, they would no doubt have conferred with the Council on the subject, and he was sure the Council would not have desired to stand in the way of their obtaining any emolument which was offered them. He hoped the Council would strengthen the hands of the Committee and urge the necessity of leaving nothing undone, and that all legitimate and constitutional means should be employed to obtain that recognition.

Mr. YOUNG asked whether it was known to any member of the Council at the last meeting that the professors had been in communication with the Pharmacopœia Committee of the Medical Council, but this question was not answered.

Mr. SYMES having supported the views already expressed, the PRESIDENT narrated his interview with the Lord President. The latter had listened to him patiently, and asked him two or three questions, and then said the broad question was whether the Pharmacopœia as a public document was a bad book. Of course, his reply was that the Society did not bring a charge against the Pharmacopœia of being a bad book, but that it might at any time become a bad book if it were not properly compiled. As a result the Lord President said he did not feel inclined to move in the question on public grounds, especially as the Bill did not make any change in this respect in the existing law. He did not wish to be weighted with too many amendments, and he did not think a sufficiently strong case had been made out to induce him to move in the question. He also asked if the editor of the Pharmacopœia was not a pharmaceutical chemist; to which, of course, he replied that though a pharmaceutical chemist he was also a professor of chemistry and pharmacy. The Lord President gave it as his opinion that in some cases the best results were obtained by employing competent men to prepare works for the body having charge of a subject. He gathered from Lord Carlingford that he rather looked upon it as a question to be dealt with between the Society and the Medical Council.

Messrs. YOUNG, SCHACHT, and ANDREWS expressed warmly their indignation at the conduct of the professors, but ultimately, after adopting the report and recommendations of the Committee, it was resolved:—

That the Library, Museum, Laboratory, and House Committee be empowered, at its discretion, to draw up and address to the House of Commons, in the name of the Council, a petition in reference to the question of Pharmacopœia revision, and that the seal of the Society be affixed thereto.

The forthcoming annual report of the Council was considered in Committee, as was also the solicitor's letter, but on the latter it was resolved that two persons should be prosecuted for alleged infringements of the Pharmacy Act.

The reports of Dr. E. Headlam Greenhow, and of Dr. Douglas MacLagan, on the London and Edinburgh examinations respectively, were submitted to the Council.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council of this Society was held on May 2. The chair was taken by Dr. Collins, and afterwards by the President, Dr. Tichborne.

The other members of the Council present were Messrs. Allen, Brunker, Doran, Grindley, Hayes, Hodgson, Lester, Dr. Montgomery, Simpson, and Wells.

After reading the minutes of the last meeting, Mr. Fennell read a letter from Dr. Kaye, Q.C., Clerk to the Privy Council, stating that that Council had been advised that the amended resolution of the Society relative to the certificate to be required from candidates for the licence was not sufficiently explicit, and that the Law Officers of the Crown had drafted the following rule, which was forwarded for consideration and approval:—

Resolution.—Every candidate for the licence who has not previous to January 3, 1883, passed the Preliminary examination of this Society, or such examination as is accepted as equivalent thereto, shall be required to produce (a) a certificate, signed by a pharmaceutical chemist or apothecary keeping open shop, stating that such candidate has served a *bond fide* engagement for a term of four years, or for two or more lesser terms amounting in all to four years, as apprentice and assistant, with and in the sole employment of such pharmaceutical chemist, or apothecary, or of a firm of legally-qualified pharmaceutical chemists or apothecaries, of which the aforesaid pharmaceutical chemist or apothecary is a member; or (b) in cases where such candidate has not served a four years' engagement as aforesaid in the employment of one such pharmaceutical chemist or apothecary, or firm as aforesaid, but has served two or more shorter engagements for terms amounting in all to four years as apprentice or assistant, with and in the sole employment for the time being of a succession of different pharmaceutical chemists or apothecaries or firms of legally-qualified pharmaceutical chemists or apothecaries keeping open shop, then like certificates showing that the candidate has served for such shorter terms as aforesaid, each of which certificates is to be signed by the pharmaceutical chemist or apothecary in whose employment the term therein mentioned has been served, or in case of a firm by a pharmaceutical chemist or apothecary being a member of such firm at the time of the signing of such certificate. When, by reason of the death of the pharmaceutical chemist or apothecary with whom any such term as aforesaid has been served, or where from any other cause it shall become impossible or inconvenient for the candidate to procure a certificate signed as aforesaid, it shall be lawful for the Society to accept in lieu thereof such evidence as it shall consider satisfactory, showing that the candidate has actually and *bond fide* served such term or terms as aforesaid.

Mr. BRUNKER: The resolution follows our view of the case, only that it is expressed in legal terms.

PRESIDENT: If it embodies the spirit of our resolution we had better let them have it in their own phraseology.

Dr. MONTGOMERY: I think it would be better to refer it to the Legal Committee to look over before we adopt it. There is no hurry about the matter. What is the object of having so many words in the resolution?

Mr. BRUNKER: To prevent candidates from wriggling through. The rule as we drafted it was too vague.

PRESIDENT: I think the object is to tighten us down—to prevent our resolution from being used too much against the candidates. The Certificate Committee is the proper one to consider it.

On the motion of Dr. MONTGOMERY, seconded by Mr. ALLEN, the draft resolution was referred to the Certificate Committee, with a request that they would consider and report on it.

A letter was received from Mr. Charles L. Peel, Clerk to the Privy Council, acknowledging the receipt of a memorial from the Council of the Society to Lord Carlingford on the subject of the Medical Bill.

The President brought under the notice of the Council the report of the Pharmaceutical Committee of the General Medical Council, which we publish elsewhere. This report was satisfactory in one sense and unsatisfactory in another. It was satisfactory to know that the editing of the Pharmacopœia was to be in such excellent hands. Professor Redwood was a thoroughly practical man. Dr. Atfield had been for many years associated with pharmaceutical education, and he would endeavour to make the

Pharmacopoeia an educational work. As to Dr. Bentley, from his position in the Pharmaceutical Society of England, he believed that he was an excellent man also. But the unsatisfactory part of the matter was that the work was exclusively in the hands of the officers of the Pharmaceutical Society of England, and that the Irish Society was left out in the cold. Of course they could not help that. It was one of the fatalities of this island. But it was one of those little things that made constitutional people think that there were grounds for the Home Rule cry. At any rate all those things appeared to tend towards a principle of centralisation. They in Ireland had to physic the people according to the directions of their friends on the other side, who had the entire control of the matter. Their objection was that they will make the Pharmacopoeia according to the London practice. They will introduce a lot of things fashionable in London practice, and expunge important articles.

Dr. MONTGOMERY: Are we in a position to make suggestions to them?

PRESIDENT: We will have to wait until we are asked.

Dr. MONTGOMERY: But even before we are asked?

PRESIDENT: We must be consistent with our dignity to do so after what has occurred. I know that Dr. Apjohn took a very prominent part in the preparation of the last Pharmacopoeia, and spent an immensity of time upon it, and I yet his services were hardly recognised.

Dr. COLLINS said he knew that the services of Dr. Apjohn in connection with the last Pharmacopoeia were not sufficiently recognised.

The Registrar read a letter from Mr. T. S. Hance, dated the "Poor Law Surgery, Limerick," forwarding his subscription of 1*l.* 1*s.* to the Society, and asking whether the Society would consider his certificates of pharmacy in conformity with the requirements of the Act. The shop he kept was not a public place of business; but he had the sanction of the Local Government Board for taking apprentices, and his certificates were recognised by all the medical boards.

PRESIDENT: Does he compound prescriptions for the public?

Mr. WELLS: He does not. It is not a shop. He has merely the dispensary to the workhouse; and I know that he has taken pupils there for some years.

It was ordered that Mr. Hance should be informed that the Act of Parliament did not admit of the Society recognising his certificates.

A report of the Law Committee was adopted.

A report of the Examiners stated that ten candidates had passed the Preliminary examination.

Some financial business having been disposed of the Council adjourned.

Metropolitan Reports.

CRICKET.—Messrs. Burgoyne, Burbidges, Cyriax & Farries' Cricket Club have opened the season in fine form, as the following score of their first match this season, played on Page's Ground, Tufnell Park, on May 5, will show.

Clark, Nicholl & Co.'s Cricket Club.

Mr. J. Horn, c. and b. Pannell	6
" Asser, c. Arnold, b. Pannell	4
" Grinstead, lb.w., b. Pannell	15
" Brown, b. Finnemore	3
" Dawson, b. Finnemore	0
" Berry, b. Pannell	8
" Lewis, b. Pannell	0
" Norden, lb.w., b. Pannell	0
" Wilson, c. Pannell	0
" J. Norden, not out	1
" Wallancke, b. Wickham	4
Extras	4
	45

B. B. & Co.'s Cricket Club

Mr. Pannell, c. Asser	40
" Cornell, b. Dawson	12
" Bew, not out	34
" Finnemore, b. Dawson	26
" Arnold, b. Wilson	4
Extras	5
	122

McSsrs. Tate, Reid, Harwood, Wickham, Hackett, and Gibson to bat.

Provincial Reports.

CHESTER.

BOILER EXPLOSION AT AERATED-WATER WORKS.—On May 1 the boiler of a 5-horse power engine at Mr. Lyle's aerated-water manufactory in Victoria road, Chester, burst with a loud explosion. The men had been engaged during the night. Everything proceeded satisfactorily until six o'clock, when the boiler burst, completely wrecking the building, hurling masses of bricks and slates in all directions. The horizontal boiler, about 10 feet in length and 4 feet in diameter, was blown completely through an 18-inch wall into an adjoining cottage, where it became lodged in an upright position. A woman and child slept in the next room to that into which the boiler was hurled, and experienced a miraculous escape. Mr. Lyle, the proprietor, with a workman, were engaged in the manufactory at the moment. The man's scalds were dressed at the infirmary, and he was enabled to leave, but Mr. Lyle was shockingly scalded and wounded about the body. The origin of the explosion remains unexplained.

LIVERPOOL.

THE LIVERPOOL CHEMISTS' ASSOCIATION.

AT the meeting of this Association held on April 26, Mr. Joseph Woodcock, the President, delivered his valedictory address, in the course of which he commented on the Pharmacy Bill in the following terms:—

There is one of the clauses which, whilst willing for the general good to sink all petty differences of opinion, I must express my regret at seeing included. I allude to that 2nd clause, which has received so much disapproving criticism from pharmacists in all parts of the country. The Editor of the *Pharmaceutical Journal*, writing last Saturday upon the subject, appears to imagine that misapprehension of the exact purport of the provision lies at the root of this hostile attitude; but I would venture, in all respect, to assure him that chemists and druggists are not necessarily babes and sucklings. Dr. Paul asserts, in effect, that as unlicensed persons are at present permitted to retail certain poisons which the clause in question is intended to affect, it would not be an injustice to pharmacists if some purely formal restrictions were placed upon their sale by persons possessing no knowledge of their properties; and again, that the articles in question are not such as should be entirely entrusted, for retail distribution, to chemists and druggists.

Everybody knows, all pharmacists at any rate, that these poisons are not, and never have been, subjected to any regulations whatever; but our respected Editor forgets that it is the *principle*, and not the facts, to which we take exception—a principle which, in my humble opinion, has been propounded, and to the present time acted upon, from the very foundation of the Pharmaceutical Society. Chemists themselves were first educated; practitioners of medicine were then educated; public opinion was educated; Parliament itself was educated to the belief that *competent knowledge of dangerous drugs was a necessary and most important qualification of the person who distributed them to the public*; and now, after forty years of uphill, though fairly successful, labour we turn round and say, in effect, that it was all a mistake; qualification is only necessary where grains and drachms, pennyworths and shillingworths are to be dispensed; but, where gallons and sovereigns are in question, the sale may be entrusted, without any irksome precautions, to the huckster who deines tinct. camph. co. as "Paddy's got it," and the root of *Ecoogonium Purga* as "jollup." But, answer the promoters of the Bill, the Privy Council—Government—refuses to have anything to do with a measure entirely confining the sale of these acids to any class, even though it be a specially-educated class. Well, what then? Our duty as qualified pharmacists lies very clear. If a lay Government, knowing little or nothing about poisons and their sale, feels sufficient confidence in its own abilities to undertake the task of legislating in that direction, it is welcome to try. Ministers may add the clause; but pharmacists, necessarily knowing far more about the subject than even eminent statesmen, should firmly and decidedly refuse to have anything to do with the proposal. It has been well

said that if this Bill becomes an Act the last poison has been added to Part 2 of the present schedule. More; I should not be at all surprised if Parliament amalgamated that list with the newly-proposed schedule of "poisonous" articles, oxalic acid, for instance, having quite as large a general, and I may say unpharmaceutical, sale as carbolic.

With regard to the second opinion I have quoted from the editorial remarks in the *Journal* of last Saturday, there need very little be said. If carbolic and the other acids do not pertain to the proper sphere of pharmacy, neither do potassic cyanide (largely employed by workers in the noble metals), arsenic and corrosive sublimate (both used extensively in taidery), or that oxalic acid which I have just quoted. We must, in fact, cease talking about what *should* properly pertain to pharmacy, and think of what *does* belong to it at present in England.

With all the remaining provisions of the draft, I am glad to say I can heartily agree. I am sorry that THE CHEMIST AND DRUGGIST, a journal which possesses a large amount of influence, should persist in the policy it has ever adopted, of promoting disunion in the pharmaceutical body. Opposition to the Pharmaceutical Society, and, above all, to the Council of that society, plainly lies at the root of the captious and irritating manner in which it refers to the "Bloombsbury Clauses" of this Bill. With all due respect to the editor of THE CHEMIST AND DRUGGIST, I would assure him that most of the old, and nearly all of the new, class of pharmacists consider these identical "Bloombsbury Clauses" as at least equally important with other portions of the Bill. Their aim—their noble and praiseworthy aim—is *union*; the consolidation of the whole heterogeneous collection of practitioners of pharmacy into a united body, holding the same title of "pharmaceutical chemist," and, it is to be hoped, by some future arrangement, of "member of the Pharmaceutical Society;" for until the two are invariably combined we shall never be able to exercise that influence our numbers and educational standing should command.

Mr. Edward Davies, F.C.S., was elected President of the Association for next year.

REGISTERED CHEMISTS' TRADE ASSOCIATION.—We have received a copy of the report of the committee of this Association, which numbers 55 paying members. During the past year several meetings have been held to discuss trade subjects, and a fifth edition of the price-list has been published, which, it is said, is applied for from all parts of the country. At the annual meeting on April 5, Mr. Symes was elected president, Mr. Woodcock vice-president, Mr. R. Parkinson treasurer, and Mr. J. Hocken, 31 Old Hull Street, secretary.

NOTTINGHAM.

NOTTINGHAM AND NOTTS CHEMISTS' ASSOCIATION.—The monthly meeting of the Association was held on April 25, the President in the chair. Mr. H. Major, B.A., delivered a very interesting lecture on "Beverages." He stated that beverages, or water in some form or other, was a necessity to the human body—in fact, the body itself contained 87 per cent. of water, muscle containing 75 per cent. The functions of the body could not be carried on without water, its greatest use being the reduction of heat in the system. There is no definite standard as to the purity of water in the ordinary sense of the word. The lecturer next dealt with milk as a beverage, as the next in importance, and containing all the elements necessary to the sustenance of life. He remarked that less milk was drunk in England than in any other country of Europe, the average being only a $\frac{1}{2}$ pint per head per day. After speaking of the adulteration of milk, he directed the attention of his hearers to tea and coffee as beverages, stating that the former was preferable for general use, as it excites vital action and perspiration, and acts directly upon the cerebral portion of the brain. Coffee does not induce perspiration, but rather suppresses it, and in this respect is less valuable than tea. In conclusion, the lecturer made some remarks upon alcohol, stating that whisky was the oldest form in which this was used as a beverage, but it was with great difficulty that either it or brandy or gin was obtained pure, the latter especially being "doctored" to a very large extent. Rum is the purest form of spirit obtainable in England. Treating on alcohol as a food, he deprecated its use, remarking that it was a narcotic, and certainly could not be proved to be of any value in the

human economy. The lecture was listened to with great interest, and at its close a vote of thanks, proposed by Mr. Beverley and seconded by Mr. Warriner, was accorded to Mr. Major.

NEWCASTLE-ON-TYNE.

THE CHEMICAL TRADE.—The sale of the site of the works of Messrs. J. & W. Allen, of Wallsend, to a neighbouring shipbuilding firm, is announced. This sale will go far to extinguish the alkali manufacture in Northumberland, this being the last of the works that carry on the manufacture on the north banks of the Tyne. The alkali manufacture is about eighty-seven years old on the Tyne, Mr. W. Losh and Mr. Thomas Doubleday having experimented largely in the last two decades of the last century. Mr. Losh, in 1792, commenced the manufacture at Walker—Lords Dunderland and Dundas, and Messrs. J. & W. Losh, John Surtees, and Aubone being the partners, according to the able paper of Messrs. Richardson, Clapham & Stevenson, read at the Newcastle meeting of the British Association. Within a very few years the Walker works were followed by Doubleday & Easterby's, at Bill Quay, by others at Felling, Jarrow, and Friar's Goose. Twenty years ago the trade had attained large dimensions on both sides of the Tyne, there being about half-a-dozen works on the Northumberland side. One by one, the works at the northern side have since been closed.

NEWTON ABBOT.

ON April 17 a fire broke out in the shop of Mr. Rogers, chemist, Bank Street, which did much damage.

OLDHAM.

OLDHAM CHEMISTS' ASSISTANTS' AND APPRENTICES' ASSOCIATION.—On April 24 this Society discussed the Draft Pharmacy Act Amendments Bill. The President (Mr. A. E. Martin) spoke highly of the efforts of the Council of the Pharmaceutical Society to draw up a satisfactory measure, and welcomed the Bill as an honest attempt to settle a difficult question, but objected strongly to clause 2 as being, in his opinion, contrary to the best interests of the trade and the public. The present educated class of chemists came into existence in consequence of the law requiring the vendors of *poisons* to be educated practical men, and clause 2 was an unnecessary retrogression into the dark ages of pharmacy. After discussion, a resolution was carried unanimously expressing general approval of the measure, with the exception of clause 2. The resolution declared the opinion of the meeting that it would be better to have no Amendment Act at all than to legalise the sale of poisonous articles by others than registered chemists.

SHEFFIELD.

THE SURGICAL INSTRUMENT TRADE.—The Sheffield correspondent of THE IRONMONGER reports that there is little buoyancy in this department at the moment, but the leading manufacturers are steadily employed, and have not much to complain of as times go. In most of the larger articles local manufacturers find no difficulty in underselling the French makers, whilst in regard to Germany its productions in this line are too well known in the Fatherland to be held in very high esteem. For much the same reason German competition for the home trade has faded almost to nothing, medical instruments belonging to that class of tool to tamper with the quality of which is to court failure. Amputation-cases and edged instruments are a large feature of the French trade, and upon these items manufacturers are well employed. The trade with America, which was once of very respectable proportions, has been practically killed off by the extra 10 per cent. duty which was levied on surgical cutlery a few years ago. The London requirements, while moderately large, are not quite up to expectation. The volume of metropolitan orders may be taken as the best index to the condition of the trade, since an unfairly large proportion of the wants of the faculty is still supplied through London manufacturers, who transmit the work to Sheffield houses. This practice is, no doubt, a relic of the once high reputation of London for the finer kinds of cutlery, and though this superiority has long ceased to be anything more than a tradition—except in a few select instruments which require

to be entirely made by one person—the idea is still nursed by the metropolitan representatives of the craft with great care. One of the best branches of the trade just now is the brass instrument, which, notwithstanding the rivalry of vulcanite, &c., is being largely adapted to syringes, stomach-pumps, &c. A growing popularity is reported in reference to electric machines for rheumatic and similar ailments, and an improving demand for trusses, electric-belts, &c., has developed that feature of the trade considerably of late. W. & H. Hutchinson are fairly employed on the orders to hand from their wide and old-established circle of customers. Joseph Gray & Son are relatively busy. Mr. Skidmore is also steadily employed on dental instruments.

WEST HARTLEPOOL.

SUICIDE OF A CHEMIST'S ASSISTANT.—A lamentable suicide is reported from West Hartlepool. Between 8 and 9 A.M. on May 2, Mr. Thomas P. Robinson, assistant to and relative of Mr. Richard B. Harpley, chemist, of Church Street, was discovered lying dead in his bed with his throat frightfully cut, and a blood-stained razor beside him. Mr. Harpley's son, a youth of 18, who slept in a bed in the same room, retired to rest about the same time as the deceased—10.30—and, after falling asleep about midnight, slept undisturbed and was unaware of the tragedy until the hour named above. Deceased had been slightly ailing a day or two, but no serious consequences were anticipated, he being of a very cheerful disposition and having excellent worldly prospects.

WREXHAM.

DINNER.—On May-day Mr. J. F. Edisbury, proprietor of the North Wales Mineral Waters Factory, gave a dinner to his employes, which was attended also by the Mayor of the town and by a large number of other local notables, who congratulated Mr. Edisbury on the rapid extension of his business.

BRITISH PHARMACEUTICAL CONFERENCE.

A MEETING of the Executive Committee was held at 17 Bloomsbury Square on Thursday, April 26, at 4 P.M. Present:—Professor Attfield, F.R.S., &c., President, in the chair; Messrs. Brady, Cartledge, Ekin, Squire, Taylor, and Messrs. Bengel and Plowman (Hon. Secs.).

The minutes of the previous meeting were read and confirmed. Letters of apology for non-attendance were read from Messrs. Ashton, Kinnimont, Radley, and Yonng.

Letters of thanks for copies of the Year-Book of Pharmacy were read from the following Societies:—Massachusetts College of Pharmacy, Royal Society, Pharmaceutical Society (London), Pharmaceutical Society (North British Branch), Glasgow Chemists and Druggists' Association, Hull Chemists' Association, Liverpool Chemists' Association, and Sheffield Pharmaceutical and Chemical Society.

A letter was read from Mr. O. R. Dawson, Secretary to the local committee of the last conference meeting, expressing thanks on behalf of the chemists of Southampton for the Bell and Hill's gift of books.

In reference to a resolution passed at a previous meeting, that a circular inviting to membership be sent to all registered chemists in Great Britain and Ireland not already connected with the Conference, it was resolved "that the mode of canvassing be adopted as on previous occasions, and that the secretaries be instructed to carry out the details."

The question of the desirability of appointing Colonial secretaries was discussed, and the secretaries were instructed to obtain the names of suitable gentlemen in the Colonies and India willing to undertake the duties, and to submit them to a future meeting for further consideration.

The Hon. Secs. reported that the arrangements for the Southport meeting were making satisfactory progress.

The names of a number of members whose subscriptions were in arrears were ordered to be removed from the list.

The following gentlemen were elected to membership:—Garrett, Mr. T. P., Newport, Mon.; Holmes, Mr. C. J., London; Horrell, Mr. A. E. J., Dartford; Martin, Mr. A. E., Oldham; Paterson, Mr. C., Fallowfields; Righton, Mr. J., Southport; Rookledge, Mr. F. E., Easingwold; Tocher, Mr. G., Helensburgh; Gabriel, Mr. A. W., Queanbeyan, N.S.W.; Wilkinson, Mr. T. M., Dunedin, New Zealand.

THE PHARMACEUTICAL EXAMINATIONS.

THE following are abstracts of the reports submitted to the Privy Council on the Pharmaceutical Examinations for 1882, by Dr. E. Headlam Greenhow and Dr. Douglas MacLagan, the official Government inspectors for England and Scotland respectively.

DR. GREENHOW'S REPORT.

The Preliminary Examination.—Out of 1,269 candidates 629 passed, a rather better proportion than last year, but about equal to the average of the last five years. Dr. Greenhow approves of the changes proposed in the details of this examination, and also of the proposed regulation that it should be passed previous to apprenticeship.

Of the rejected candidates, 15 who had obtained the minimum passing number of marks allotted to each subject failed because they had not gained half the aggregate number of marks required for passing the entire examination; 80 failed in all the subjects; 303 in arithmetic; 173 in two of the three subjects; 49 in English; and 20 in Latin. This latter number, however, by no means represents the actual number of failures in Latin, for if those who failed in all the subjects, or in two of them whereof Latin was one, and those also who failed in the aggregate, be added together the rejections for Latin amount to 181; and even of those candidates who pass the Preliminary examination a considerable number, amounting last year to 60, fail at the Minor examination in translating prescriptions written in Latin.

Major Examination.—During last year 94 candidates were examined for the Major examination, and 58, or 61·7 per cent., failed. This is the largest proportion of failures that has ever occurred; the next largest having been in 1880, when 54·3 per cent. were found incompetent. The large number of rejections last year cannot be ascribed either to any change in the regulations for conducting the examination or to increased strictness on the part of the examiners.

As it is an examination for honours the standard is not too high. It is a good practical examination. Of the 58 rejected candidates 19 failed upon the examination as a whole; 29 in chemistry and practical work, and 18 in botany or botany and materia medica.

Minor Examination.—During last year 572 candidates offered themselves for this examination, of whom 242 passed and 330, or 57·7 per cent., failed. This, again, is the largest proportion of rejections, excepting in 1874, when the rejections amounted to 69·3 per cent. Since that year the proportion of rejections has ranged from 48·1 to 54·6 per cent. in different years.

Of the 330 rejected candidates last year, seventy-five failed in the examination as a whole, that is to say, although they had gained the minimum passing number of marks in each of the several subjects, they did not obtain half the aggregate number of marks upon the whole examination. As a rule, candidates are seldom very weak in one subject only, but when a man is weak in one branch of the examination he fails more or less completely in the other subjects.

The examination for each subject is conducted by a different examiner, so that a candidate who fails in the aggregate must have been found incompetent by six different examiners, who are rarely aware how he has acquitted himself in the other subjects. Of the remainder, eighty-one failed in chemistry, thirty-nine in reading Latin prescriptions, thirty in materia medica, twenty-four in practical dispensing, nineteen in pharmacy, sixteen in botany, and forty-six in two of these subjects.

During the fourteen years Dr. Greenhow has watched the examinations, he has invariably been favourably impressed with the efficiency, tact, and good sense of the examiners. The standard has necessarily been slowly raised as the number of candidates who commenced their education before the passing of the Pharmacy Act has been reduced.

He is quite sure that the present examination is a sufficient test of competency in those who pass. It may, indeed, possibly happen that a rather weak candidate occasionally passes, though he cannot recollect such an instance; but, on the other hand, he believes that no really competent candi-

date is ever rejected. He is also satisfied that all those who pass are qualified to carry on the business of a chemist and druggist with safety to the public, which must be regarded as the essential purpose and requirement of the Pharmacy Act.

Dr. Greenhow repeats his approval of the recommendations that the Preliminary examination should be passed prior to the commencement of the period of apprenticeship or pupillage, and that the candidates should be required to produce evidence of apprenticeship or pupillage of not less than three years with some duly registered chemist and druggist.

The omission of compulsory apprenticeship seems to him an oversight in the Pharmacy Act. The regulation at present in force, that candidates for the Minor must produce a certified declaration that they have been for three years registered and employed as apprentices or students, or have been otherwise for three years practically engaged in the translation and dispensing of prescriptions, has not been found to afford a sufficient guarantee that the candidates actually have had the practical training that was intended. The proposed regulation would make the master by implication partly responsible for the progress of his apprentice, and the apprenticeship might well be extended to five years. When the apprenticeship is served in a small country pharmacy it might be arranged, with the concurrence of the master, that the two last years of the apprenticeship should be passed in a pharmacy in some large town, where better opportunities for learning might be found; or, the last year might, at the option of the apprentice, be occupied in attending a certain specified course of instruction in practical chemistry at a recognised school of pharmacy.

The proposal to divide the Minor examination into two parts seems unobjectionable to Dr. Greenhow, but he would hold it only in London and Edinburgh, and he would not insist on an interval of more than a few days between the two parts. The present *riâd voce* examination in prescriptions, pharmacy, and botany is very practical and satisfactory. A written examination as proposed would be an inadequate substitute for it.

The case is otherwise as regards theoretical chemistry, and a written examination on that subject might very beneficially be added to the present practical one, *provided* it was not allowed to stand in any respect as a substitute for it. It might be held on the same day as the examination in prescriptions, pharmacy, and botany, a certain fixed time being allowed for writing the answers.

The recommendation that the candidate be required to produce evidence that he has, since passing the Preliminary examination, attended a course of lectures on materia medica, a course of lectures on chemistry, a course of lectures on botany, and a course of instruction in practical chemistry, is not intended to come into operation until after December 31, 1887. Dr. Greenhow has already expressed his opinion that such a curriculum is not required for the purpose of the Pharmacy Act, and sees no reason for changing that opinion. As a matter of fact, a certain number of the candidates do not attend such lectures; and a portion of the apprenticeship might, at a candidate's option, be passed in following such a curriculum. But whilst he would not discourage the candidates from attending the proposed course of instruction if they pleased, he would not enforce such attendance. From the preamble of the Pharmacy Act Dr. Greenhow infers that no restriction beyond what is necessary for the safety of the public was intended to be imposed upon pharmacists, and he has been able from year to year to express his satisfaction with the results of the examination, and his opinion that, as at present conducted, it affords a sufficient guarantee for such safety.

So long as this is the case, no additional burden should be imposed on candidates for the qualifying examination. If the Council of the Pharmaceutical Society have the legal power to enforce the regulation respecting a curriculum—and Dr. Greenhow presumes that they have had advice on the subject—he hopes that they will first try the effect of the regulations concerning the Preliminary examination and the stricter apprenticeship before going any further. The standard for the Major examination he thinks might be very properly raised.

DR. MACLAGAN ON PHARMACEUTICAL EXAMINATIONS IN EDINBURGH.

The report covers the years 1880 to 1883.

The results of the examinations conducted during this period will appear from the following statement:—

	Candidates	Passed	Failed	Percentage of Failures
Majors	29	15	14	48.2
Minors	292	166	126	43.15
Modified	6	2	4	66.6
	327	—	—	—

The proportion of failures is increasing, as is shown by the table below:—

	1877-80	1880-83
Majors	37.5	48.2
Minors	37.8	43.15
Modified	60	67

Candidates seem very ignorant of the preparation required of them for examination.

The new examiners on the board, while thoroughly efficient, are not stricter than their predecessors.

In the Major examinations eleven failures out of fourteen are due to deficiency in practical chemistry. This examination is held first, and those who fail in it do not go forward to the *riâd voce* examination.

The percentages of failures at the Minor examination, due to insufficiency in the various subjects, is given below:—

	1877-80	1880-83
Botany	32.12	20.90
Chemistry	23.68	17.44
Materia medica	6.41	67.1
Prescription reading	1.92	5.36
Dispensing	15.38	12.68
Pharmacy	23.08	12.08

In botany candidates are more often deficient in vegetable organography and vegetable physiology. In chemistry the average knowledge of candidates has increased: one candidate presented himself to whom the examiner very properly did not give a single mark for chemistry. He did not, for instance, know any way of distinguishing sulphate of zinc from sulphate of magnesia, except by the taste.

Every year Dr. MacLagan is more and more impressed with the necessity for a forced curriculum. Even in candidates who pass, the want of systematic instruction is observable.

It is easy to observe, though impossible to define, the difference between a correct and intelligent answer, between one which is the result of cram and one which is the outcome of a good instruction. But the difference can be seen better when the candidate has made a blunder. The intelligent and instructed man retrieves himself, and shows that he knows more than at first sight appeared; the man who has crammed, in his struggles to correct his mistake, only flounders more and more deeply into the mud. The remedy for this is true systematic instruction.

In materia medica, the specimens shown to candidates are too good in quality. It would be well to show bad specimens, to see if inferior and false drugs can be recognised.

Dr. MacLagan is an advocate for purer Latinity; he stigmatises as incorrect pronunciations which he has heard—*atrôpa*, *gentiana lutea*, *cosium*, *acëtum*, and *liquôris*, and gibbets an advertisement in a medical journal as a hideous violation of two of the most elementary rules of Latin grammar.

In dispensing and pharmacy the proportion of failures is the same in both, and ranks next to the two scientific subjects. While there must be many creditable exceptions, there can be little doubt that, to a large extent, members of

the pharmaceutical profession do not do their duty properly to their apprentices. If young men during their apprenticeship do not learn pharmacy and dispensing, it may come to be asked, and in a very practical form, what do they learn during the three years' apprenticeship the utility of which is so much insisted on? If the apprentice is merely to learn the routine duties which fall on anyone standing behind a counter, six months would be enough, and the three years' apprenticeship might be abolished with advantage. Pharmacists would have themselves to blame were this to come about, and would regret it if they found that, instead of having apprentices to aid them in their business, they would need to secure the services of assistants, which cost money. It is an immoral thing in a pharmacist to take a young man as his apprentice and not to enable him to learn the very things which his master can teach him. Every discouragement should be given to the too common practice of purchasing galenical preparations, such as tinctures, from wholesale houses, instead of making the apprentice prepare them and seeing that he does so accurately. Perhaps some change in the terms of indentures, enforcing more decidedly the duty of the master to teach his apprentice practical dispensing and pharmacy, would be of use in saving time which is wasted behind the counter in retail dealing, and which might more profitably be used at a school of systematic instruction.

Dr. MacLagan believes that the Minor examination affords ample security for the public safety. The Major examination, however, does little to raise up a class of scientific pharmacists. The difference between the two examinations is not so great as to lead him to object to the proposal to abolish the distinction between them, but this should be done by raising the standard of the pass examination, at least up to the level of the present Major.

THE SOUTH LONDON SCHOOL OF PHARMACY.

ON Monday, April 16, the prizes and certificates were distributed at the South London School of Pharmacy at Kennington. Mr. Charles R. White was the chairman on the occasion, supported by several parochial authorities, and a large audience of the friends of the students. Mr. W. Baxter introduced each candidate by a few appropriate words; and in the course of his remarks alluded to the probable alterations that might soon be made with respect not only to the regulations of Pharmacy, but to the constitution of existing schools. He had, however, the happiness of thinking that whatever changes new laws might create, the establishment under the care of Dr. Muter had uniformly done its duty. He had seen no less than a hundred men crowded into that laboratory, and for fifteen years the pharmaceutical and chemical studies had been carried on there with uniform success. The list of prizemen was as follows:—

	Medal	Certificate
Senior Chemistry	Mr. Tyson ..	Mr. Austin
Junior Chemistry	Mr. Talbot ..	Mr. Presbury
Botany	Mr. Micklem ..	Mr. Talbot
Maternal Medicine	Mr. Nicholls ..	
Practical Pharmacy and Dispensing	Mr. Presbury ..	Mr. Nicholls.

EXTRA CERTIFICATES OF MERIT.

Messrs. OHEDD, ARNOTT, MICKLEM, CUBEY, THWAITES, COOPER, CULLIVICK, and SHEPHERD.

At the conclusion of the bestowal of these rewards, Mr. White enlarged upon the general subject of study, and pointed out some developments of applied chemistry, notably the electric light, to which attention might be devoted with advantage. He urged upon his hearers never to neglect their moral duties, and to make the best of the opportunities which were placed before them. Several speakers gave good counsel to their young audience; and one, especially, Mr. Churchwarden Bennett, contrasted the inefficient teaching of former days with the more accurate methods now employed. He, with much felicity, sketched the early career of the now distinguished Professor Abel, whom he had often noticed as one of the most diligent chemists, and who had by unremitted perseverance attained so high a position in his department as to be entitled to the honour of knighthood. Mr. Joseph Ince spoke immediately after

the chairman, thus: I own that I have often felt a degree of reluctance in so often addressing the students at this school, because I fear lest the same task, being confided to the same person, monotony must result. I am, therefore, grateful to the chairman for having himself taken part of this duty, and given excellent advice. Nevertheless, there are some things in which I do not see, and never wish to see, a change. There are not only assembled a large number of students, but a kindly audience, who are content to sacrifice one of the best hours of an opening week in encouraging, by their presence, the successful students of the past session.

Once again, after one brief interregnum, we have the pleasure of seeing the director of this establishment, Dr. Muter.

I would venture, upon old friendship, to implore him not to be always bent upon doing too much, but that he would consent to husband that strength which is as important to others as to himself. Were it quite permissible, I would add the next thought which rises in my mind—it is a difficult thing to stand up before a crowd of pharmaceutical students, who are perfect judges of what is being said—but my troubles as a speaker are wonderfully diminished by standing literally face to face with, and before the approving smile of, Mr. Baxter. Now, just as a lady reserves her most serious communication for a postscript, I am about to follow that example.

There is one thing over which no change has come, and on the constancy of which we all rejoice—the prosperity of the South London School of Pharmacy; its benches have been filled; its teaching has been effectual, and its reputation remains untouched.

Here my true difficulty begins. Many who have met here are men devoted to purely professional life; even some of those who are chemists are not so in a restricted sense, but attend to its higher and more scientific branches. Others, again, are engaged in the public service and direct our metropolitan affairs. They would be tempted to enlarge more on the strictly scientific side of study. They would like to hear of study for its own sake—how it elevates the mind, and of the fascination it exerts. From an abstract point of view, I will yield to no one in praise or appreciation of intellectual culture.

But I bear in mind that I have been a practical and working pharmacist, and by pharmacy have had to get my bread. I remember that I have worked in a laboratory with my own hands, and that, moreover, I have kept the books of a big house. I am, therefore, not likely to forget that the majority of you have entered this school hoping by the practice of pharmacy to gain an honourable livelihood. You wish by its means to win a competency, and from it to derive your future support. The Government steps in and says, These men shall not get their living in this way unless by certain imperative tests they show themselves competent to discharge their special duties. They are not mere tradesmen; vendors of ordinary commodities. They have to do with things affecting the public welfare; with substances which by ignorant use may become poisons; with poisons which by skilful use may be converted into healing remedies. We, the Government, forbid them to enter on their vocation until they have undergone the prescribed examinations. Well then, gentlemen, am I not representing the matter in a fair and sensible manner when I say that your first duty while here is to prepare for the inevitable, and to utilise to the utmost the resources which this school affords, in order that you may be enabled to pass those examinations which the law ordains, and which no sentimental or fanciful reasoning can avert? We have heard from the secretary that certain changes are imminent which possibly may affect this and other schools. There never was a period in my or your recollection when some upheaval was not threatening to take place.

I view with equanimity these wars and rumours of wars. Dynamite and sudden explosions are not limited to the material world. There always have been, and there always will be, new settings of external circumstances; these are but old things ranging themselves to suit the necessities of progress. Your best and wisest course is to do exactly what you are doing now, and let the future settle its own concerns. *Carpè diem, not Carpe dies.* Concentrate your full powers of heart and mind on the attainment of that sound knowledge which it is the object of this place to give.

Hereafter, and in fit time, you may wing higher flights and may find various remunerative applications of the knowledge you possess. To some of these the chairman has alluded, and most certainly they offer tangible advantages. But the world, or rather other cares, will never again grant you the chance of laying the foundation. Achieve that, and whatever changes, good or evil, may sweep over Pharmacy, you will have made yourselves independent of any such alterations, and you will find yourselves in possession of a vested right with which no one can interfere, and which none can take away.

A NEW BRITISH PHARMACOPEIA.

Report by Professors REDWOOD, BENTLEY, and ATTFIELD, on the Revision of, and Suggested Alterations in, the British Pharmacopœia.

To the Pharmacopœia Committee of the Medical Council.

GENTLEMEN,—

HAVING received your instructions to proceed with the revision of the British Pharmacopœia, we now, in accordance with the suggestions made in our joint letter of November 7, enter into a more detailed explanation than we previously gave of the changes that seem to be required, and which we submit for your consideration.

Assuming that the general arrangement of the matter contained in the Pharmacopœia is satisfactory, we have principally directed our attention, in the first place, to the questions of nomenclature and notation, to the mode of representing quantities in describing various processes, and to some other questions which underlie the whole of the descriptive matter of the work; and, secondly, to the substances referred to under the various heads, to the desirability of omitting any of these, or of adding to their number, of altering any of the processes for their production, where such are given, and generally of improving or altering the descriptions by which the articles referred to are specified and defined.

Chemical Nomenclature.—By a slight alteration, principally in the terminal syllables of some of the Latin and English names applied to chemical compounds, these may be rendered more consistent, not only with the views now generally entertained by chemists, but also with the names applied in the Pharmacopœia to other chemical substances. Thus, instead of using the names sulphate of potash, nitrate of ammonia, carbonate of lime, &c., it is proposed to substitute those of sulphate of potassium, nitrate of ammonium, carbonate of calcium, &c., and these names would be respectively Latinised as potassii sulphas, ammonii nitras, calci carbonas, the abbreviated mode of expressing which, it will be observed, will not differ from that hitherto adopted in medical prescriptions. The substituted names are strictly consistent with those hitherto and still applied to corresponding salts of iron, lead, zinc, &c.; therefore with regard to these latter no alteration is required.

Symbolic Notation.—The use of symbolic formulae in describing chemical compounds has the great advantage of defining their composition more exactly than the mere use of names is usually capable of doing, and on this account such formulae have been freely used in the Pharmacopœia. At the time at which the present Pharmacopœia was being prepared a change was taking place from an old to a more modern system of chemical nomenclature, including a change in the values of many of the symbols used to represent chemical elements; and, as it was not then thought desirable at once to discard old names with their appropriate symbolic formulae, these were retained, while at the same time a concession was made to the more modern views, by representing well-defined chemical compounds according to the new as well as the old system of notation. As the former has now become fully established, and as it is proposed to use the more modern nomenclature, we suggest that the old notation should be omitted. We may remark here, that since the publication of the Pharmacopœia in 1867, its definitions of the strength and composition of medicines have acquired additional importance in consequence of their being frequently referred to as authorised standards by which to estimate the quality of substances sold under the names

there given. Such reference is sometimes made in the carrying-out of modern legislation, and especially of the Sale of Food and Drugs Act, in connection with which some of the symbolic formulae of the Pharmacopœia have been applied in a sense they were not intended to bear, and it will be necessary in such instances to give to the formulae a more qualified meaning. Thus, for instance, under the head of "Potasse Tartras Acida," the appended symbolic formula was intended merely to represent and define the composition of cream of tartar in a state of chemical purity, in which it is never met with in commerce. The action of the tests subsequently referred to recognises a certain departure from chemical purity, but as this is indefinite, while the other is precise and absolute, there has been room here for difference of opinion, which it is desirable to avoid.

Method of Representing the Quantities of Ingredients to be used in the Preparation of Medicines.—If all those engaged in preparing, prescribing, and dispensing medicines were familiar with and accustomed to use any one system of weights and measures, no more simple or better method could be desired for indicating the relative quantities of ingredients to be used in processes than that of specifying the quantities with relation to the recognised standards of such system. Practically, however, it is found that while the intercommunication of the inhabitants of all civilised nations is increasing, and while the importance of medical men and pharmacists of different nations being able readily to perceive the relation in composition and strength of the medicines they respectively use, is strongly urged and generally admitted, there is no system of weights and measures that all are familiar with, and unfortunately, the different systems that are in use, do not readily admit of a simple comparison of their several integers. Even with reference to the national system of this country we find the following statement in the preface to the Pharmacopœia:—"It must be admitted that the absence in the present system of any denomination of weight between the grain and the avoirdupois ounce of 437.5 grains, and the fact that the ounce is not a simple multiple of the grain, are grave defects. Still, it has not been thought desirable to make any change in this respect at present, especially as no practical inconvenience appears to be experienced in preparing, by means of these weights, the medicines ordered in the Pharmacopœia." And, again, it is stated:—"The Council are not insensible to the advantages that would result from the adoption of one uniform system of weights and measures, to be used alike for all substances and in all countries; and they observe with satisfaction the efforts which have been made for the realisation of this object; but, considering the paramount importance of avoiding errors in preparing and dispensing medicines, they cannot recommend that in such operations a system should be adopted which has been as yet but little used, and is to a great extent unknown in this country; and on this account they have not employed the metrical system, even as an alternative, excepting in the processes for volumetric estimations, which are so arranged that the same solutions may be made and used either with British weights and measures or with those of the metrical system." These statements appear to us, in their general bearing, to be applicable now with almost as much force as they possessed at the time at which they were written, and under that impression, and with the view of facilitating and promoting the more general use of metrical weights and measures, which the extension of a scientific education among pharmacists also tends to promote and facilitate, we have suggested and recommend that wherever applicable in the description of processes in the Pharmacopœia, proportional parts should be substituted for specific weights and measures. This method has already been adopted in the German and also in the United States Pharmacopœia. In Germany its adoption was greatly facilitated by the practice, always pursued in that country, of weighing liquid as well as solid medicines. In the United States, as in this country, it has been usual to measure liquid medicines; but with the exception of a few special preparations, the United States Pharmacopœia now orders the proportions of both liquids and solids to be adjusted by weight, and in such cases merely indicates proportional parts. We do not recommend so great a change as this would involve in the British Pharmacopœia, but think that, with few exceptions, parts might with advantage

be substituted for specified weights and measures, using the term "parts" to represent parts by weight, and "fluid parts" to indicate the volume of the specified number of parts of the same value of water. The Committee have resolved that the present and the proposed methods be both used in the new edition of the Pharmacopœia. It will thus be seen that in describing or interpreting a process by this method all the proportional numbers applied to that process must refer to one and the same denomination of weight or measure. In our previous communication we explained that there are measure-glasses in general use graduated to represent the volumes of various quantities in grains or ounces or other parts, by weight, of water, by the employment of which much of the difficulty that might be otherwise experienced in applying this method will be removed. In the great majority of cases the quantitative relations of ingredients in the processes is simple, and the application of the new method would be obvious and easy; but there are some processes that would require to be reconstructed, and in a few instances it will be necessary to slightly change the existing proportions of ingredients. There are even a few processes to which, as now given in the Pharmacopœia, the method is inapplicable. The only cases of this description, however, are those of the "enemas" and the "inhalations," the formula for each of which is given in the form in which it would be prescribed for use. These might be left as exceptional cases.

The following illustrations will serve to explain the way in which the new method, where applicable, would be applied:—

Pulvis Ipecacuanhæ Compositus.

Take of—

	Present Method	Proposed Method
Ipecacuanha, in powder .. ..	.. .. 1 oz.	.. 1 part
Opium, in powder .. ..	.. .. 1/2 "	.. 1 "
Sulphate of potassium, in powder .. ..	.. 4 "	.. 8 "

This is one of the most simple cases.

Mistura Cretæ.

Take of—

	Present Method	Proposed Method
Prepared chalk .. ..	.. .. 2 oz.	.. 1 part
Gum acacia, in powder .. ..	.. 1 "	.. 1 "
Syrup .. ..	.. 1 fl. oz.	.. 2 fl. parts
Cinnamon .. ..	.. 7 1/2 "	.. 30 "

Mistura Ferri Composita.

Take of—

	Present Method	Proposed Method
Sulphate of iron .. ..	.. 25 grains	.. 6 parts
Carbonate of potassium .. ..	.. 30 "	.. 7 "
Myrrh .. ..	.. 60 "	.. 14 "
Refined sugar .. ..	.. 4 fl. drms.	.. 50 fl. parts
Spirit of nutmeg .. ..	.. 9 1/2 fl. oz.	.. 1,000 "

The process here is reconstructed, and the proportions slightly altered and simplified.

We anticipate the following advantages from the adoption of the proposed method:—

1. That the use of proportional numbers will tend to the simplification of proportions in compounded medicines.
2. That the proportions given being equally applicable to either of the two systems of weights and measures, this will gradually lead to the more general use of the metrical system.
3. That the processes of the British Pharmacopœia will be more intelligible to medical men and pharmacists abroad who are accustomed to use the metrical system exclusively, and that this will gradually lead to the assimilation of medicines bearing the same names as ordered in different pharmacopœias.

In describing medicines under the names officially adopted, we think it desirable to include synonyms as far as possible. We also think that extent of solubility is a character in many substances that should be specified, where it can be given on reliable authority; and we would suggest that where temperature is indicated, it should be expressed according to the Fahrenheit scale, with the corresponding degrees, Centigrade, added within brackets.

Having thus alluded to questions which relate generally to the proposed mode of constructing the descriptive representations of the medicines which it is the special object of the Pharmacopœia to define, we proceed to offer a few

remarks with reference to the extent to which it appears desirable to omit any, or to add to the number of, the medicines at present described, or to alter any of the processes or verbal descriptions and definitions of the various substances treated of in the Pharmacopœia. In doing this we must confine ourselves at present to a slight and general reference to medicines which might be omitted or introduced, reserving our opinions with reference to specific substances until we have had more extended opportunities for investigation, and especially for conferring with your Committee, and receiving suggestions from you as well as from those medical and pharmaceutical authorities which you may think it desirable to consult. We have already expressed the opinion that very few, if any, of the medicines at present described in the Pharmacopœia seem to call for exclusion, and that it is not desirable to introduce new remedies that might be proposed on slight or speculative grounds. There are, however, valuable remedies which have been brought into notice since the present edition of the Pharmacopœia was published, and which, having become established in medical use, it will no doubt be considered desirable to include among other official medicines. There are also preparations intended for special modes of administration, such as solutions for hypodermic injection, to which additions might be made.

With reference to the alteration of processes and of descriptions and definitions of the substances treated of in the Pharmacopœia, we may speak in more decided terms, being satisfied that there is room here for improvement, involving much experimental work. The proposed alteration in the mode of representing quantities in the several processes will of itself entail a vast amount of work, not only of calculation and reconstruction, but of preparation of the various products, to ascertain the effects of any slight alteration of proportions that may be made. Similar changes, involving an equally great amount of work, will be required in connection with the chemical processes generally, and for extending and rendering more complete the application of chemical tests.

With reference to the vegetable materia medica, very great advance has been made since the issue of the Pharmacopœia in 1867, so that all the articles describing drugs of vegetable origin will require complete revision, as regards their botanical sources, synonyms, reference to figures, characters, and tests, and many will have to be entirely rewritten. These changes will, however, in no degree interfere with the general character of the work as at present designed, but only make it scientifically accurate, and render the diagnosis and determination of the purity of such drugs a matter of but little difficulty.

We are, yours faithfully,

T. REDWOOD.
ROBERT BENTLEY.
JOHN ATTFIELD.

17 Bloomsbury Square, January 5.

BRITISH PHARMACOPŒIA.

The articles in the following lists are suggested, subject to further consideration, with a view to their addition to, or omission from, the British Pharmacopœia:—

1. For Addition.	
Acidum boracicum.	Phosostigma or eserin.
" chromicum.	Pilocarpine hydrochloras.
" hygrochromicum.	Plula copalis.
" lacticum.	Rhamnus frangula and its fluid extract.
" oleum.	Sodi bromidum.
" phosphoricum (syrupy)	" iodinum.
" salicicum.	" salicylicum.
Antimonium nigrum purificatum.	" sulphocarbolas.
Apoemphite hydrochloras.	Syrupus hypophosphitum cum ferro (Farrist's syrup).
Argent nitras dilutam.	Tinctura chloroformi et morphine (chlorodyne).
Cocleina.	Unguentum paraffini (vaseline).
Elastrinum.	
Gelsenium sempervirens, and some preparation of it.	
Iodoformum.	2. For omission.
Lupulinum.	Hydrargyri iodidum viride.
Oleum eucalypti.	Succus rhamni.
Oleo-resina cubeben.	Syrupus rhamni.

T. REDWOOD.
ROBERT BENTLEY.
JOHN ATTFIELD.

17 Bloomsbury Square, April 11.

EXPLOSIVE SUBSTANCES—SPECIAL NOTICE TO CHEMISTS AND DRUGGISTS.

THE following circular is in course of issue from the Home Office to the local authorities and police throughout the Kingdom:—

"Home Office, April 18, 1883.

"Sir,—I am directed by the Secretary of State to inform you that it appears to him desirable that the attention of the local authorities and of the police should be directed to the importance of exercising special and vigilant observation with a view to preventing the acquisition by persons for unlawful objects, not only of explosives adapted for such purposes, but of the materials with which, if possessed of a little technical knowledge, they would be able to manufacture explosives.

"With a view to assisting you in exercising such observation, I beg to enclose a memorandum which has been drawn up by Her Majesty's Chief Inspector of Explosives, and which enumerates the more important of the materials which are capable of being more or less readily applied to the production of explosive.

"It would be desirable that you should take immediate steps to bring this circular under the notice of all pharmaceutical chemists, chemists and druggists, dyers, salters, oil and colour men, and manufacturers of or dealers in chemicals within your jurisdiction, and otherwise obtain for it such publicity as may be practicable in order that any suspicious cases of purchase or possession may be promptly brought under the notice of the police.

"I am at the same time to call your attention to certain provisions of the Explosives Act, 1875, *e.g.*, section 69, which directs that 'it shall be the duty of every local authority to carry into effect the powers vested in them under this Act,' and to the powers of appointing officers (sections 69 and 75), and the considerable powers of search and seizure conferred by sections 73, 74, and 75. You will not fail to observe that section 73 gives a power to search for ingredients of an explosive as well as for the explosive itself, while the Explosive Substances Act, 1883, which incorporates the same powers, extends them to the search for and seizure of any apparatus for firing explosives.

"Section 23 of the Explosives Act, 1875, imposes upon the occupiers of factories, magazines, stores, and registered premises the obligation of taking all due precautions for preventing unauthorised persons having access to the factory, magazine, or store, or to the explosive therein or in the registered premises, and attention should be at once called to any case in which it may appear to the local authority that this obligation is imperfectly discharged. The local authorities should also require their officers to direct the particular attention of the occupiers of all stores and registered premises within their jurisdiction to this obligation.

"I am also to insist upon the importance of the local authority availing themselves of the powers which the Explosives Act of 1875 confers upon them of appointing competent officers to carry out the Act within their jurisdiction; and these officers should be enjoined to direct their particular attention to the prevention, by every means in their power, of the illegal manufacture and possession of explosive.

"I am to add that a reward of 100*l.* will be given to any person (other than a person belonging to a police force in the United Kingdom) who furnishes information which may lead to the discovery and conviction of any person who may be engaged in the illegal manufacture of explosive, in any case in which it is shown to the satisfaction of the Secretary of State that such illegal manufacture constituted a serious infringement of the law, and was being carried on for a criminal purpose.

"I am, sir, your obedient servant,

"A. O. F. LIDDELL.

"The Clerk to the Local Authority under the Explosives Act, 1875."

MEMORANDUM.

"Independently of the purchase of explosives (such as dynamite, blasting gelatine, gun-cotton, tonite, potentite, and detonators), specially adapted for blasting, and, therefore,

generally available for destructive purposes, by persons who may not be reasonably supposed to require the same for industrial objects, suspicion should attach to the acquisition in notable quantities of all or any of the materials adapted for the making of explosives when the person seeking to purchase the same is unknown to the seller, or is not known to require such materials for trade purposes or other legitimate use.

"Among the substances which fall within this category may be specially enumerated the following:—Nitric acid, sulphuric acid, especially in their more concentrated forms; glycerine, saltpetre, Chili saltpetre (nitrate of sodium), chlorates (especially chlorate of potash), picrates, picric acid, phosphorus; iodine, metallic mercury, nitrate of mercury, even in comparatively small quantities; orpiment.

"V. D. MAJENDIE, Colonel, Her Majesty's Chief Inspector of Explosives."

FOREIGN CUSTOMS TARIFFS.

INDIAN CUSTOMS TARIFF.

THE only articles of interest to druggists on which import duty is levied in India are spirit and opium.

Spirit intended to be used exclusively in arts or manufactures, or in chemistry, which has been rendered effectually and permanently unfit for human consumption, or when used in drugs, medicines, or chemicals in a proportion less than 20 per cent. of spirit of the strength of London proof, 5 per cent. *ad valorem*. Spirit so used in a proportion of 20 per cent. and upwards; perfumed spirit in wood or in bottles containing more than 4 oz., and other sorts of spirit, *per imperial gallon*, or six-quart bottles of the strength of London proof, 5 rupees, and the duty to be increased in proportion as the strength of the spirit exceeds London proof.

Opium not covered by a Government pass, *per ser* of 10 *tolas* 2*1* rupees. Opium from any port in British India, and protected by the certificate of the proper officer, is entitled to a drawback equal to the amount of duty already paid on it. The rupee is officially reckoned at 2*5*.

CEYLON CUSTOMS TARIFF.

(*plum*, 1*s.* per lb.

Spirits and cordials, *6*s.** per imperial gallon.

All other goods, 5 per cent. *ad valorem*, except acids, area nuts, arrow-root, bet-sax, cardamoms, castor seed, cocconuts and cocoanut oil, copperah, dammar, hops, scientific instruments, live leeches, manures of all sorts, oil (the produce of creatures living in the sea), refuse of saltpetre for manure only, blacking, brimstone, brushes, candles, cutch, fuller's earth, ground nuts, surgical instruments, oils (kerosene, vegetable, earth, linseed), orchilla wood, resin, sazo, Stockholm tar, tallow and grease, tar and pitch, woods, dye, sandal, and of sorts.

The importation is prohibited of—

Earth, oil, or mineral naphthalas, gun-cotton and nitroglycerine, except by license of the governor.

CUSTOMS TARIFF—CHINA.

Catty = 1 lb. 5 oz. 5 drs., or $\frac{1}{16}$ lb. avoirdupois; 1 *tael* = 10 mace = 100 candarins = 1,000 cash = 6*s.* 8*d.*

Assafœtida, per 100 catties	6 <i>m.</i> 5 <i>c.</i>	Gum, dragon's blood,	
Beeswax	1 <i>t.</i>	myrrh, and olibanum,	
Camphor, Baroos, clean		per 100 catties	4 <i>m.</i>
per catty	1 <i>t.</i> 3 <i>m.</i>	Isinglass, per 100 catties	6 <i>m.</i>
Camphor, Baroos, refuse,		Lucoband seed, per 100	
per catty	7 <i>m.</i> 2 <i>d.</i>	catties	3 <i>1</i> <i>c.</i>
Cardamoms, superior, per		Mace, per 100 catties	1 <i>t.</i>
100 catties	1 <i>t.</i>	Quicksilver	2 <i>t.</i>
Cardamoms, inferior, or		Nutmegs	2 <i>t.</i>
grains of Paradise, per		Oilves	1 <i>m.</i> 8 <i>c.</i>
100 catties	5 <i>m.</i>	Opium	30 <i>t.</i>
Cinnamon, per 100 catties	1 <i>t.</i> 5 <i>m.</i>	Rose maces	1 <i>t.</i>
Cloves	5 <i>m.</i>	Saltpetre (see Rules) per	
" mother	1 <i>m.</i> 8 <i>c.</i>	100 catties	5 <i>m.</i>
Cochineal	5 <i>t.</i>	Sandal wood	4 <i>m.</i>
Indian cow bezoar per		Sassa wood, per 100	
catty	1 <i>1</i> <i>t.</i>	catties	1 <i>m.</i>
Cutch, per 100 catties	1 <i>m.</i> 8 <i>c.</i>	Sticklac, per 100 catties	7 <i>t.</i> 2 <i>m.</i>
Gambier	1 <i>m.</i> 5 <i>c.</i>	Sulphur and brimstone	
Gamboge	1 <i>t.</i>	(see Rules) per 100	
Ginseng, American crude,		catties	2 <i>m.</i>
per 100 catties	6 <i>t.</i>	Optical instruments 5 p.c. <i>ad val.</i>	
Ginseng, American clarified,		Japan wax, per 100 cat-	
per 100 catties	8 <i>t.</i>	ties	6 <i>1</i> <i>m.</i>
Gum Benjamin, and oil			
of, per 100 catties	6 <i>m.</i>		

RULES, &c.

Sago, perfumery, soap of all kinds, candles, foreign medicines and glass are admitted free. All articles not specified pay 5 per cent. *ad valorem*. Saltpetre, sulphur, and brimstone may not be imported by British subjects.

CUSTOMS TARIFF—JAPAN.

1 Boo or Bu = 1s. 4d., 3 bus = \$1.

Alum, per 100 catties ..	15c.	Paint and paint oils, per	
Betel nut	45c.	100 catties ..	1b. 50c.
Cloves and mother cloves,		Quicksilver, per 100 cat-	
per 100 catties ..	1 bu.	ties	6b.
Cochineal, per 100 catties ..	21 bus.	Quinine, per catty ..	1b. 50c.
Catch	75c.	Shubar, per 100 catties ..	1b.
Gambier	45c.	Sandal wood	1b. 25c.
Gamboge	3 bus. 75c.	Sapan wood	40c.
Gum Benjamin and oil of		Soap, bar	50c.
ditto, per 100 catties ..	2 bus. 40c.	Sticklac	1b. 75c.
Gum, dragon's blood ..		Vermilion	8b.
myrrh, oldmanum, per		Saltpetre is free.	
100 catties	1b. 80c.		

Drugs and medicines such as ginseng, &c., dyes, European earthenware, gums and spices not named in the tariff, perfumery, scented soap, and scientific instruments pay 5 per cent. *ad valorem* on original value. Opium is prohibited.

STRAITS SETTLEMENTS.

There are no duties on imports or exports.

For Australasian tariffs see last number, page 154. Other tariffs will follow.

NATIVE MEDICINAL PLANTS OF NEW ZEALAND.

COMMUNICATED BY MR. GRAVES AICKIN, AUCKLAND.

THE following indigenous plants possess medicinal properties, some of which have been ascertained by frequent use and beneficial effects amongst settlers in isolated districts, others by the traditions of the Maoris and their medicine-men:—

NATIVE NAME

Hara Keke ..	(<i>Phormium tenax</i>).—The native flax, of great value as a fibre plant; the root is antelmintic and cathartic; the gum, which is clear and tenacious, is used in diarrhoea, and as a dressing to wounds and abrasions.
Horopito ..	(<i>Drimys axillaris</i>).—The bark is a pungent aromatic, the stimulating tonic properties of which are little inferior to Winter's bark.
Karaka ..	(<i>Corynocarpus laevigata</i>).—A beautiful evergreen tree, yielding edible fruit, the kernels of which contain an alkaloid isolated as "Karakine"; this is very poisonous, and induces a kind of paralysis, occasionally leaving paralysis of a limb.
Kareao ..	(<i>Rhigonum parvifolium</i>).—The "Supple Jack"; it is closely allied to <i>arsarpilla</i> , and reputed makes it quite equal to the <i>Smilax</i> family in anti-scorbutic and alterative properties.
Kawa Kawa ..	(<i>Piper excelsum</i>).—Closely resembles the Kava Kava (<i>Piper methysticum</i>) of Fiji; it is a warm aromatic pepper, with stimulating diuretic properties similar to <i>Piper cubeba</i> . This plant should receive analytical investigation.
Koke Koke ..	(<i>Diospyllum spectabile</i>).—The leaves and bark are used as a bitter stomachic and tonic. Further investigation is needed.
Koromiko ..	(<i>Veronica telifolia</i>).—This variety, of a numerous indigenous family, is most valued for its undoubted astringent properties; it has been largely used, with beneficial effect, in dysentery and diarrhoea.
Sohutu Kawa ..	(<i>Metrosideros tomentosa</i>).—The "Christmas Tree," so called from the brilliant display of scarlet flowers at Christmas season; the bark is rich in tannin, and is valuable in dysentery.
Tanekaha ..	(<i>Phyllocladus trichomanoides</i>).—The "Celery Pine," growing to 60 feet in height; the bark yields a large percentage of tannin, and is consequently much used in New Zealand tanneries; it is second only to the celebrated "Divi Divi" in the yield of tannic acid; in dysentery this astringent has also proved itself of much value; a red dye is obtained by the natives from the bark.

The above are a few of the best known of our native medicines; that more do not find a place in the literature of pharmacy and analytical chemistry is due to the fact that the patient searcher in science has not yet given time or taken sufficient interest in the flora of our colony. Our forest lands contain immense wealth, as viewed from the economic standpoint. Timber for general utility, unequalled in the Southern Hemisphere; barks, rich in tannin;

also innumerable plants containing valuable medicinal properties, which as yet are but little understood, and await only the investigating mind of some colonial "Hanbury."

The valuable gum or resin known as "Kawri gum" is an article of export well known in London and New York markets. It is the concrete resin of extinct pines (*Dammara australis*). This gum is found buried in the soil, where no trace on the surface is seen of the extinct trees from which it once exuded.

This article will not permit of treating on the fibre plants, oil-yielding plants, dye plants, perfume plants (scented grasses), and edible tubers and fruits; but I leave your readers with the hope that a greater interest will be awakened in this most interesting portion of Her Majesty's dominions.

AUSTRALIAN PHARMACY.

(FROM OUR OWN CORRESPONDENT.)

MELBOURNE, VICTORIA, March 28.

THE annual meeting of the Pharmaceutical Society of Victoria was held on March 14. The attendance was not as large as usual, which may be accounted for, as one of the speakers observed, by no one having anything to grumble at. The President of the Society (Mr. William Bowen) occupied the chair, and, after the usual formalities had been gone through, delivered a short address, in which he referred to the position and future prospects of the Society. He said: "I well remember the time when this Society was initiated. Like the colony itself, it was in an embryo state; the seed was sown, germinated, and for a time appeared to flourish, but owing to periodical droughts, for which this country is remarkable, its career has been a chequered one. But 'sweet are the uses of adversity,' for notwithstanding the hardships and difficulties it has had to contend with, it has now arrived at maturity as a hardy plant—an acclimatised one, it is true—for it is a singular circumstance that this fair colony of Victoria, and I think I may say Australia at large, surrounded as it is by all the blessings of civilisation, does not produce a single fruit or food of any kind in an indigenous state adapted for the sustenance of a European population. Therefore, notwithstanding the circumstance that this Society has now arrived at maturity in a sound and healthy condition, we must not forget that its future prosperity will depend upon the kindly care and nourishment which the members, as its future custodians and guardians, may afford. The report now read has informed you of the efforts made by the Council in securing a habitation and abode for its future operations. There the School of Pharmacy, which has already been formed, will soon possess the advantages of a properly fitted laboratory, a lecture hall, library, museum, and class-rooms; and I trust the increased number of students which may reasonably be expected, surrounded as they will be by all the advantages which such an institution is calculated to afford, will, by their diligence and success in their studies, realise the highest and brightest anticipations of its promoters. There, likewise, I trust the members of this Society will be found assembled together animated by a generous spirit of emulation, reading original papers, discussing, and by demonstration and experiment proving that they are no mere trading body, but that they are true disciples and earnest students in the paths of science. An effort is now being made by your Council to promote a Conference of the various pharmaceutical societies and pharmacy boards of the Australian Colonies, New Zealand, and Tasmania, with the object of realising uniformity in the educational curriculum among them with that of Great Britain, and thus to secure an interchange of certificates. This step I deem a matter of importance, not only to the members of the Society, but to the public at large, as I consider it to be the duty of every colonist to do all in his power to unite together under one federal bond of union the several colonies of the British Empire. You have likewise been informed of the steps taken by the Council in their efforts to relieve the trade from the vexatious operations of the Victorian tariff, especially with regard to opium and the patent medicine duties, and from the courtesy with which the members of your deputation were received, I trust those efforts have not

been made in vain. Before closing my remarks, I desire to draw the attention of the members of the Society to the arduous labour and the intelligent interest which our worthy honorary secretary, Mr. Shillinglaw, has brought to bear in the conduct of the business and progress thereof, without fee or reward. I do not think that the members generally realise the amount of labour which he has so generously undertaken, and I have no hesitation in declaring that the time has arrived when such services must be recognised. I must now conclude, wishing success with all my heart to the Pharmaceutical Society of Victoria."

At the conclusion of the President's address the gold medal of the Society was presented to Mr. Charles Edward Towl, of Ballarat, as the student who passed the best examination in all subjects during the year 1882.

AUSTRALASIAN PHARMACEUTICAL CONFERENCE.

Mr. Bowen, in detailing what had led to the proposition, said that the main object of the Conference would be to secure a uniform curriculum throughout Australia. He presumed it might be considered that the Society approved of the proposal to hold a Conference.

Mr. Blackett, in referring to the subject, said that it was suggested that it should be held in Sydney, which was the most central place. The efforts to overcome the *vis inertiae* prevailing in South Australia in connection with pharmaceutical matters had so far not been successful. It was desirable that pharmaceutical legislation should be studied, and that the various colonies should adopt a uniform system, particularly with regard to education. In Victoria they had endeavoured to adopt the same curriculum as that of the Pharmaceutical Society of Great Britain. No doubt when the Society moved into the new building, and secured improved appliances, it would attain as high a standard as the parent society of Great Britain. If they did that the other colonies would probably follow suit, and then there could be an intercolonial recognition of certificates, which would greatly facilitate the work of the various pharmacy boards. On one point Victoria was in advance of England in this connection. There was the same Preliminary examination here as in England, but pharmaceutical legislation here provided that all students should pass that Preliminary examination before they could be apprenticed. Consequently, in this colony youths had, before entering this important profession, to be educated up to a sufficient point. The other colonies had not gone so far as that yet.

Mr. H. Brind also spoke in support of the Conference, which he considered would be of immense benefit to pharmacists in all the colonies.

It was decided, on the motion of Mr. Blackett, that the question of amending the rules and the registration of the Society should be left in the hands of the Council.

Mr. Blackett also proposed a vote of thanks to the retiring President for the very able manner in which he had fulfilled the duties of President. The interest taken by him in all matters relating to the Society was shown by his having been absent from but one meeting during the past year.

The motion was seconded and supported by Mr. A. T. Best, and carried unanimously, Mr. Bowen returning thanks.

A cordial vote of thanks was also passed to the Honorary Secretary, Mr. Shillinglaw.

The second session of the Melbourne School of Pharmacy has been brought to a close. The school promises to increase in favour every year. For the session shortly to be commenced there are a number of students already entered, and it is hoped that the school may be shortly removed into the new building.

The following gentlemen have been appointed trustees of the new school building and land:—On behalf of the Pharmacy Board—Messrs. Bosisto, M.P., J.P., Brind, and Holdsworth, J.P.; on behalf of the Pharmaceutical Society—Messrs. William Bowen, J.P., George Lewis, J.F., Henry Gamble, and Thomas Huntsman.

The proposal to hold a Pharmaceutical Conference appears to meet with general approval. In a letter from Mr. W. T. Pinkey, of Sydney, which was read at the last meeting of the Pharmaceutical Society, he says:—

"I have much pleasure in stating that the proposition of holding an Intercolonial Conference of gentlemen representing the pharmaceutical chemists has the heartiest approval

of all of us, feeling very sanguine that great and permanent good to all concerned must inevitably be the result."

Mr. J. A. Allan, of Wellington, New Zealand, also stated—

"There is no doubt but that a confederation of the Australasian colonies respecting pharmacy would benefit all individually."

Mr. Graves Aicken, writing from Auckland, N.Z., under date of March 20, says:—

"I think the idea of having a Conference in Sydney to arrange standard and basis of reciprocity a good one: I trust to see it carried to a successful issue."

The following letter, signed by all the members of the Pharmacy Board, has been sent to Mr. J. Bosisto, the retiring President:—

"Melbourne, March 14, 1883. To Joseph Bosisto, Esq., J.P., M.L.A., &c.—On your retirement from the Pharmacy Board of Victoria, over which you have so zealously presided since its inception in 1877, we, your late fellow-members, desire to express to you our appreciation of your care and watchfulness over the proceedings of the Board, and all that could in any way tend to the advancement of pharmacy or the improvement of the status of pharmacists; and that though, from pressure of legislative and other duties, you are compelled to sever yourself from us, we assure you that we look upon you still as one of ourselves, and at all times shall be glad of any advice or suggestions that you may be good enough to offer, which will be received with respect, as coming from our late President, who may justly be called one of the founders of pharmacy in this colony."

PHARMACY IN NEW ZEALAND.

(FROM OUR NEW ZEALAND CORRESPONDENT.)

AUCKLAND, March 27.

THE STATE OF PHARMACY

IS what the market reports would call "dull, with indications of briskness." The different branches of the Pharmaceutical Society are languishing, little interest is taken in such matters, and the whole attention would appear to be absorbed in accumulating the crumbs of the present prosperity that fall freely to the lot of the industrious and energetic in this colony.

The Pharmacy Board is moving in the direction of a much-needed work—I refer to the legislation immediately necessary in our Pharmacy Act. Without amendment, our present Act is of no practical value. The amendments sought by the chemists of the colony, through the agency of the Board, are as follows:—

1. Power to make Bye-laws and Regulations. At present the 11th clause renders this impracticable or impossible.

2. Power to prevent unqualified persons "carrying on business" as chemists and druggists, similar to that given in the 1st sub-section of the 25th section of the Victorian Act. The New Zealand Act only deals with persons who "use or exhibit the name of chemist, pharmaceutical chemist," &c., &c.

3. To incorporate the "Sale of Poisons Act" with the "Pharmacy Act," so that supervision under the Sale of Poisons Act should be exercised by the Pharmacy Board and a small licence fee be charged to persons who may be considered eligible as "vendors."

The above are the main features in the amended Bill to come before Parliament next session; minor amendments will be dropped in order to secure these more vital improvements. Should we succeed in obtaining a more complete Act, as proposed, it will then be only a close copy of the Pharmacy Act under which our more fortunate brethren in Victoria are contented, and make progress.

THE AUSTRALASIAN PHARMACEUTICAL CONFERENCE.

Referring to Victoria, in pharmaceutical matters the most forward and energetic of the Australasian Colonies, a circular has been sent from their obliging secretary (Mr. Shillinglaw) to the Pharmacy Boards of the various colonies, suggesting a Conference at Sydney of delegates, to confer upon the important subject of reciprocal diplomas, that is, the basis upon which they, collectively and severally, should

be recognised. The standard of qualification and matter of recognition has been already a vexed question between Victoria and New Zealand. It is a sound practical suggestion, and should be carried into effect, with the idea of placing pharmacy in the Australian Colonies upon a uniform and useful basis, as regards matters of higher education, apprenticeship, and beneficial legislation.

THE WHOLESALE TRADE.

The balance-sheet of the New Zealand Drug Company will be very instructive to the trade in England. This company has virtually a monopoly of the cream of the trade in New Zealand, and has been most successfully managed, as the returns of the past three years would show. The present paid-up capital in shares represents 80,239*l.*, but for that the shareholders possess stock which, in February, 1881, was valued at 76,420*l.*, and is now worth (March, 1883) 92,825*l.* In February, 1881, their warehouse and factory property only represented 15,883*l.*; by the present balance-sheet it is shown to have increased to 26,788*l.* The dividend declared this year is 10 per cent., which is the same as in previous years, and the sum of 7,220*l.* is carried forward. The net profits for 1882 were 9,412*l.* The proportion of bad debts is as follows:—In 1880, 2,931*l.*; 1881, 821*l.*; 1882, 1,292*l.*

These figures speak for themselves. The character of the drug business in this young colony, with half-a-million Europeans, is by no means unhealthy, and it redounds to the credit of the Drug Company that the large figures above quoted have resulted from the energetic enterprise of its founders, Messrs. Kempton & Prosser, who launched the business with comparatively moderate capital. Tighter times for the company must be expected, as well-known English houses now find it worth their while to send travellers the round trip of the colonies—Burgoyne, Langton, Maws, Lynch, Gossnell, and a few others seek the trade of an Australasian constituency. Messrs. Elliott Brothers, of Sydney, are having a "cut-in" for a share of the New Zealand trade. They have the advantage of a free port (Sydney), and they offer inducements in price that the company do not care to drop to. Consequently, many Christchurch and Auckland druggists are buying in the cheaper market. Such is the wholesale trade as it at present exists. What effect the rapid increase of trade consequent upon the assured prosperity of this country may have upon the wholesale trade, it is difficult to predict. One thing may be assumed without difficulty—that is, increased competition, and an equalising and reduction of prices to the retail druggist, as the outcome.

JAPAN IMPORTS OF DRUGS.

IT is well known that all drugs imported into Japan are subject to a rigid examination before they are permitted to go into trade. The head of the official laboratory is M. Gaerts, a Dutchman, and his reports are occasionally published in a Dutch publication called the *Pharm. Weekblad*. The latest which appeared gives details of the laboratory work for the year from July 1, 1880, to July 1, 1881. During the year 2,341 samples were submitted to examination, representing a total of 258,812 bottles or packets. This was a great increase over the previous year, when the samples numbered 1,683, and represented 182,127 bottles or packets. Of the samples submitted, 1,768 (representing 213,270) passed, 82 (representing 5,337) were withdrawn without examination, and 491 (representing 39,846) were forbidden. The following were the most important adulterations observed in the condemned drugs:—

Acid. enzoic, 3 samples, not prepared from benzoic.
Balsam copaiba, 2 samples, mixed with fatty oils.
Balsam Peru, 5 samples, adulterated with one-third to one-half its weight with castor oil.
Creasote, 4 samples, three of which were carbolic acid simply, and one was an aqueous solution thereof.
Citrates of iron and quinine, 2 samples, contained mixed alkaloids instead of pure quinine.

Hydruge. iod. flav., 1 sample, contained carbonate of lime to the extent of one-third of its weight.

Hydr. iod. rubr., 1 sample, consisted simply of cinnabar.

Kamala, 4 samples, contained from 30 to 39 per cent. of sand.

Magnesia citras, 1 sample, consisted of magnes. tartaras.

Ol. amygdal., 3 samples, adulterated with other oils.

Ol. bacc. juniper, 2 samples, adulterated with oil of juniper wood.

Olea lavandulae, myristice vol. and rosmarini, of each 1 sample, adulterated with turpentine.

Quinidine sulph., 3 samples, consisted chiefly of sulphate of cinchonidin.

Quinine murias, 1 sample, consisted chiefly of muriate of cinchonidin.

Quinine sulphas, 2 samples, were mixtures of alkaloids of less value.

Quinine tannas, 1 sample, was a tannate of other cinchona alkaloids.

Quinine valerianus, 1 sample, consisted almost entirely of valerianate of cinchonidin.

APPRENTICESHIP.

THE number of persons who are or have been, or may at some future time be, parties to apprenticeship indentures, either as masters, as apprentices, or as parents or guardians, is so very great that we have thought that a brief and simple explanation of the rights and obligations involved may be both interesting and useful.

The several parties to the contract of apprenticeship may be dealt with in the order in which their names appear in the indenture:—(1.) The apprentice. (2.) The parent or guardian. (3.) The master. And a few general remarks may then be added.

THE APPRENTICE.—No person can be bound without his own consent, whether he be a minor or of full age; and, in the case of a minor, the consent of his parent or guardian is also necessary. A minor can only be bound to serve until he attains the age of twenty-one years; for any contract made by an infant may be confirmed or repudiated on his reaching full age; but the repudiation must be made within a reasonable time. Service for a considerable time after completion of his twenty-first year would amount to a confirmation of the contract, and the apprentice would afterwards be obliged to serve the remainder of his term. A person who is over twenty-one years of age may bind himself for any number of years without the consent of his parent. Formerly it was usual for apprentices to be bound for seven years; but the old law requiring this as a condition precedent to the exercising of certain trades has been repealed, and it is now a common practice, when the master is not a freeman of any city or borough, to bind boys for five, four, or even three years; while it is not unusual for female apprentices to serve still shorter terms. The apprentice has a right to be taught his master's trade, and to have sufficient opportunity of becoming expert in it by means of practical experience. He is also entitled to be paid the stipulated wages regularly, notwithstanding occasional sickness of business or temporary illness, unless such illness should have been caused by his own misconduct. On the other hand, he must obey all his master's lawful commands, and must in every way serve faithfully and protect his master's interests to the utmost of his power. The apprentice should also have reasonable opportunities for study, &c., if requisite for his business.

THE PARENT OR GUARDIAN.—The consent of the parent or guardian is evidenced by his executing the indenture; but there is another reason for his concurrence therein. He is required to enter into covenants with the master for faithful service by the apprentice, and for other purposes, such as that he will supply the apprentice during the term with wearing apparel and other necessities; and when only part of the premium is paid on the execution of the indenture, he must also covenant for payment of the balance. He is the proper person to sue on behalf of the apprentice in case of any breach of covenant by the master.

THE MASTER.—The covenants entered into with the master (*inter alia*) for faithful service by the apprentice entitle him to bring an action for damages against the covenantor in case of the breach of any of those covenants.

The master always covenants to teach his trade to the apprentice; sometimes to provide him with good and sufficient food and suitable lodgings during the term; and sometimes to pay him wages on an agreed scale, usually beginning at a very low figure and increasing each year. Any breach of covenant on his part would expose him to an action.

When no premium is paid, or the premium does not exceed 25*l.*, and the apprentice is bound to learn the business of a workman, that is to say, when the employment consists of manual labour, a more summary remedy is provided in case of misconduct by either the master or the apprentice by summons to attend before the magistrates in petty sessions, who have power to inflict such penalty as they may think necessary, not exceeding 20*l.* in the case of a master; to commit an apprentice to prison on his refusal to obey their order; or to cancel the indenture, and, if it appears just, to order the whole or any part of the premium to be repaid. These summary powers formerly extended to all apprentices, but are now limited as stated above.

An apprenticeship may be determined in several ways. (1.) By effluxion of time, when the whole term has been served. (2.) By the apprentice attaining the age of twenty-one years and refusing to serve any longer. (3.) By mutual arrangement. (4.) By order of justices. (5.) By the death of either master or apprentice; but if the apprenticeship is to a firm, the death of one or more members of that firm does not dissolve it, the surviving partners or partner being entitled to the benefit of the contract. (6.) On the bankruptcy of the master, either the bankrupt or the apprentice may give notice in writing to the trustee that the apprenticeship is to cease; or the trustee may be required by the apprentice or his parent or guardian to transfer the indenture to some other master. When the apprenticeship is put an end to, part of the premium may be returned by the trustee, subject to an appeal to the Court.

With the exception of parish apprentices and those bound at the sole charge of any charity, the indenture is subject to 2*s.* 6*d.* stamp when no premium is paid; and when a premium is paid the stamp is 5*s.* for every 5*l.* or fractional part thereof.

An apprenticeship cannot be created by verbal agreement. The proper way in which to bind an apprentice is by indenture, that is to say, a deed signed, sealed, and delivered by the several parties thereto. Sometimes an agreement not under seal is substituted, but this is seldom desirable, and is only admissible when a person of mature age enters into an agreement to learn a trade without caring to acquire the status of an apprentice for any collateral object. The forms issued by the Inland Revenue Office, stamped, and with blanks for names and descriptions of the parties, and any other particulars which may be necessary, can generally be filled up by the parties themselves without the assistance of a solicitor; though, if any doubt or difficulty be found, a solicitor ought to be instructed. It is better to pay a small fee for professional assistance than to have an imperfect instrument. If it be decided to do without a solicitor, then, after the blanks have been carefully filled up, with the assistance of an old indenture, if at hand, a small wax or paper seal should be affixed at the foot of the indenture, on the right-hand side, for each of the parties. The apprentice will sign opposite the top seal, place his finger thereon, and say: "This is my seal, I deliver this as my act and deed." The parent or guardian will in like manner adopt the second seal, and the master the third. Some disinterested person must be present as a witness, and must sign his name under the attestation clause, and add his address and occupation. An agreement not under seal has some legal disadvantages, and it has not even the advantage of escaping from the payment of stamp duty, for by the Stamp Act now in force, the duty is payable on every instrument of apprenticeship, which is defined as comprising every writing relating to the service or tuition of any apprentice, clerk, or servant placed with any master to learn any profession, trade, or employment, except articles of clerkship specially charged with duty. When the master is a freeman, and the apprentice wishes to acquire freedom of the same city or borough the apprenticeship must be by indenture enrolled at the town clerk's office, and generally for the full term of seven years. The cost of the indenture, including stamp, is generally divided, the father paying half

and the master the other half; but the town clerk's fee on enrolment is paid by the father or guardian on behalf of the apprentice.

ODOURS, PERFUMES, AND FLAVOURS, NATURAL AND ARTIFICIAL; THEIR SOURCES AND MANUFACTURE.

By ALFRED HENRY MASON, F.C.S.

Read at the Evening Meeting of the Liverpool Chemists' Association, April 12, 1883.

PROBABLY there is no one present who has not been asked the enigma, What smells most in a druggist's shop? and is aware of the reply—Your nose. Whether this is complimentary or no, certain it is that no sense requires more tuition in our ordinary vocation than the sense of smell. To the untutored nose most odours are alike, but when tutored, either for pleasure or profit, no nerve is more sensitive than the olfactory, nor is the cultivation of this sense by any means confined to our calling. Medical men, wine merchants, spice merchants, perfumers, tea and coffee dealers, and hop merchants have all to undergo a regular educational course in the sense of smell.

Be our intuition imperfect or no, we are more or less aware that when the olfactory nerve has absorbed an odour the impression is rapidly and vividly transmitted to the brain, producing an agreeable or disagreeable effect, as the case may be, and acquiring somewhat of a mental character—just as the retina receives an impression from a painting, or the ear from a musical sound.

The physiology of the olfactory nerve is a subject of great interest, but it would hardly be appropriate to treat upon it this evening. I shall do so in a paper I have prepared for the Literary and Philosophical Society on Monday next.

I will here observe that odour and perfume are not synonymous. Shakespeare thus defines the distinction in two of his plays. In the "Taming of the Shrew," Gremio directs that the papers he sends to Bianca should be well perfumed, for "she is sweeter than perfume itself"; and Constance, in "King John," calls death "an odoriferous stench."

The word "odour," I take it, designates any agreeable or disagreeable emanation, whilst "perfume" conveys the idea of an agreeable odour, and the substance which furnishes it.

The influence of the sense of smell on the frame is very remarkable and varied: one odour will instantly produce loathing, nausea, and vomiting with some persons, whilst others are not affected by it; again, perfumes to some most agreeable are to others intolerable, and different persons describe differently the sensations they severally receive from the same odorous substance.

When odoriferous molecules are brought in contact with the olfactory membrane, the sense of smell is brought into action, and the brain perceives the odour. The olfactory apparatus is, therefore, indispensable to the impression.

The origin of perfumes, like that of all arts, is shrouded in mystery. It is said that it was in the land of Yemen (or Arabia) that perfumes were first discovered. A party of wandering shepherds happened to light a fire on a heap of stones with some of the aromatic woods so common in that country, and, delighted with the fragrant fumes which they produced, and seeing them rise in blue wreaths towards heaven, they instinctively associated a religious idea with it: they fancied their vows would be conveyed in that manner to the deity above; and thus originated the first perfume altar. The word "perfum" —*per*, through; *fumum*, smoke—clearly indicates this.

The bellium mentioned by Moses in Genesis was a perfumed gum, and it is of special interest to us to notice that in the thirtieth chapter of Exodus we find instructions were given to take certain odorous substances, make a perfume, a confection after the art of the apothecary; and this was to be done with great care and accuracy, and there were penalties attached, by which anyone who imitated the process and compound was to be cut off from his people. There were no patent laws in those days; but what a happy state of things it would be for the proprietors if such penalties existed for imitators of specialties now!

It was in the days of Queen Elizabeth that perfumes came to be used freely in this country, although supplies were then obtained chiefly from foreign countries. It has, however, been reserved for our generation to perfect the art of perfumery. For the last fifty years England has been distinguished for its manufacture of these articles, and with the aid of chemistry we are now able to fix the most fugitive odours, and offer them under a multitude of forms, the sweetness of which testifies the salubrity of their use.

Odours have been classified in different ways by different authors. Linnaeus divided them into seven classes:—Aromatic, fragrant, ambrosial, alliaceous, foetid, repulsive, nauseous. Of these only the first three are perfumes. But more recent authorities consider his classification was far from correct, for he placed very dissimilar flowers and leaves together. Fourcroy divided them into five groups, but Virey, finding these to be insufficient, established twenty orders. De Haller divided them into three, but all these were more classical than theoretical, and none classified odours by their resemblance to each other. Mr. Rimmel's classification of perfumes, *i.e.*, only pleasant natural odours, seems now to be accepted by the modern authors on perfumery. He adopts the principle that as there are primary colours from which all secondary shades are composed, there are also primary odours with perfect types, and that all other aromas are connected more or less with them. There are odours, such as that of wintergreen, which it would be difficult to introduce into this classification, and compound perfumes are produced by blending several classes together.

The proposal to divide all odours into two classes, agreeable and disagreeable, will appear obviously defective and only relative, for an odour agreeable to one person is disagreeable to another, and it would only classify the quality, and give no idea as to their individuality.

Odours impregnate all bodies in different degrees. Gloves retain for a long time the perfume of ambergris. Paper and cotton that of musk. Oils and greases retain balsamic and volatile principles. Water, and especially alcohol, dissolve perfectly the principles of flowers. The manufacture of perfumery in its various forms is founded on this knowledge, and thus the perfume of flowers—so light, so fugitive—with which we are charmed whilst summer lasts, and which otherwise would be scattered by the winds, is rendered stable by art and industry, to minister to the wants of a refined mind, and console us for the loss of flowers when nature's duty has been performed.

The roses soon withered that hung o'er the wave,

But some blossoms were gathered while freshly they shone,
And a dew was distilled from the flowers which gave

All the fragrance of summer when summer was gone.

The three kingdoms of nature furnish materials which yield natural odours, and which are used in the manufacture of perfumes, and they are obtained from all parts of the globe; but the vegetable excels in number and variety. These materials may be divided into ten series—Animal, Floral, Herbal, Citrine, Spicy, Ligneous, Radical, Seminal, Balsam, and Fruity. In addition to these, some are produced artificially, and their sources are subject to further subdivision.

The Animal series comprises ambergris, castor, civet, and musk.

Ambrogriss is the morbid product of the large-headed whale (*Phæter microcephalus*), which is picked up on the seashore or floating on the sea. It is rarely used alone, but by mixing it with other perfumes its odour is developed. The essence of amber of perfumers is an alcoholic tincture of ambergris, to which oils of roses, cloves, lavender, &c., are added.

Castor is a substance often secreted in a pocket that the heaver (*Castor fiber*) carries under the tail; it is imported from Canada and the territories of the Hudson's Bay Company. It is, however, little used. Perfumes containing it last well on the handkerchief, but few persons consider it nice.

Civet is an unctuous product extracted from a cavity, more or less deep, placed below the anus of the civet cat (*Viverra civetta*), and opening by the outside. The animal is found in Asia and Africa, principally in Abyssinia, Guinea, and

Congo. Civet enters into the fabrication of several compound perfumes, among them the powder of chypre. Lavender, thyme, and scented waters acquire much superiority when prepared with a small quantity of civet.

Musk is an animal secretion of brown colour found in the excretory follicles about the navel of a male ruminant called musk-deer, found in China, Tonquin, Thihet, and Tartary. Musk is one of the strongest of odoriferous substances; it is very lasting, its odour adheres to all substances around it. It is reported that an exact calculation has shown that 1 grain of musk has, in a radius of 90 feet, disengaged in one day 57,839,616 particles without any diminution in its weight. This same grain of musk, abandoned to itself for six months in a large garret, communicated its odour to all the objects in the room, and, being weighed in an accurate scale, it had experienced no loss.

It is said that the effect of the odour of musk on living animals is so violent that the hunters will bleed at the nose if they neglect certain precautions when depriving the animal of his bag. It is, perhaps, fortunate that the natives adulterate the substance to such an extent that there is no fear of such an accident happening to those amongst us who have to use it. The odour of musk is not by any means confined to this animal; many others, and some insects, emit it, and a multitude of plants possess it in different degrees.

Musk is rarely ever used alone. Its penetrating and tenacious odour, may affect the nerves, causing some persons to faint, &c., but, being mixed in very small quantities with other perfumes, such as ambergris, lavender, &c., it loses its offensive smell and becomes most agreeable to the olfactorys.

The sweetest flowers, the perfumes, and generally all aromatic substances are produced in Eastern countries, but the chief source from which we derive perfumes is Turkey, the South of France, Italy, Spain, and the Mediterranean coast of Africa. The flower farms at Grasse and Nîmes are most luxuriant, and these are the chief places of production, for plants not grown there, or their products, are imported by these manufacturers. Algeria has latterly developed most important industries in this art. Our own country only furnishes one natural perfume in perfection. At Mitcham in Surrey, and Hitchin in Hertfordshire, lavender is produced very largely, or, I should say, was produced very largely. Fine old English lavender water is a very favourite perfume—

In each bright drop there is a spell,

'Tis from the soil we love so well.

From English gardens mown.—Penny.

Our climate appears to be better adapted for the perfect development of lavender, our humid atmosphere tones down or softens the natural rankness of the odour of the essential oil. Mitcham plants have even been transplanted to French soil without yielding an oil having a higher relative value of 10s. per lb., against 200s. per lb. for that grown in England.

In the Floral series we find roses, orange-flowers, violets, tuberose, jasmine, jonquil, narcissus, cassia (*Acacia farneti ana*), and ihlang-ihlang. In the Herbal series we find lavender, spike, peppermint, rosemary, thyme, marjoram, geranium, patchouli, and wintergreen. In the Citrine series, bergamotte, orange, lemon, cedrat, and limette.

Respecting these substances I beg to refer you to a valuable paper by Mr. W. A. Wrenn, read before the London Chemists' Assistants' Association, and published in THE CHEMIST AND DRUGGIST, February 15, 1883, page 65.

In the Spice series we find cassia, cinnamon, clove, nutmeg, mace, and pimento. In the Ligneous series, sandalwood, rosewood, rhodium, cedar-wood, sassafras. In the Radical, or Root, series, orris-root and vitiver, or kuskus. In the Seminal series, aniseed, dill, fennel, and caraway. In the Balsam, benzoin, halsam of Peru and tolu, myrrh, styrax, and camphor.

In the foregoing it may be the entire plant which serves the purpose of the perfumer, or it may be the roots only, or the root-stocks, the bark (as in cinnamon), or the wood (as in santal), or the leaves (as in patchouli), or the various parts of the plant. The different parts of the same plants yield different perfumes—for instance, the orange-flower. From orange-flowers we obtain oil of neroli; from the leaves of the same plant, oil petitgrain. We also produce orange-flower water, orange-leaves water, oil of orange-flowers, pomade of orange-flowers, and extracts therefrom.

The various products from these substances take the forms of essential oils, ottos, alcoholic tinctures, pomades, essences, and waters.

The odours of the vegetable kingdom reside in a principle or constituent known as "essential oil," but in more correct nomenclature, "otto." Every plant or odorous flower contains a greater or less amount of this principle—the separation of which from its parent substance is the initial movement in most of the perfumers' operations. Natural essential oils form a group the properties and chemical action of which are very variable. The processes employed to extract these principles from plants, &c., are: (1) Distillation with water (salt is sometimes added); (2) by impregnation with fatty bodies; (3) by pressure.

The essential oils, so called, are divided into light oils and heavy oils. As a type of the light oil we have oil of neroli. Four pounds of fresh orange-flowers are put into a bag of metallic cloth and placed in a cucurbit containing 12 lbs. of water; the head and refrigerator are adapted, and heat applied until no more water and oil pass over; the oil is drawn off by a Florentine receiver. As a type of the heavy essential oil we have oil of cloves. Five pounds of cloves, 10 lbs. of water, and 1 lb. of salt are macerated for forty-eight hours, and distilled until the product is no longer milky; the essential oil is allowed to deposit, the water drawn off, and poured back into the alembic and distilled a second time. This operation is repeated two or three times to extract all the oil. Ten days after the oil is filtered to clarify and deprive it of all foreign matters.

Essential oil of almond is distilled by reaction.

There are, however, only two flowers to which the process of distillation is applicable—rose and orange—the aroma of others being too delicate to withstand the great heat. Probably to the perfumer the oil of roses—or otto or attar—is one of the most important, and he compels the lovely flower to yield its aroma to him in every shape. Besides the otto, distilled water, perfumed oil and pomade, its withered leaves are rendered available to form a basis of sachet-powder, for they retain their odour for a considerable time. The otto of roses of commerce is derived from the *Rosa centifolia provincialis*. Extensive farms exist at Broussa, at Ustak, at Kesanlik (Turkey in Asia); also at Ghazepore, in India, and at Grasse, in France. In a good season the rose-farms of the Balkans yield 75,000 oz., but in bad seasons only 20,000 oz. to 30,000 oz. It requires at least 16,000 flowers to yield 1 oz. of otto.

The otto from different districts slightly varies in odour. Some places furnish an otto which solidifies more readily than others, and therefore this is not a sure guide of purity, though many so consider it. The French otto is green, and they say far more consistent than the Oriental; it is richer in stearopten than the Turkish; 1½ oz. will crystallise in 1 gallon of spirit at the same temperature that is required for 3 oz. of the best Turkish otto; 10,000 kilos. of French roses produce nearly 1 kilo of essential oil.

The process of *expression* is confined to essences obtained from the rinds of fruits of the citron series. It is performed in different ways. On the coast of Genoa they rub the fruit against a grated funnel; in Sicily they press the rind in cloth bags; and in Calabria, where the largest quantity is manufactured, they roll the fruit between two haws, one placed inside the other, the concave part of the lower and the convex part of the upper being armed with sharp spikes. These wheels revolve in a contrary direction, causing the small vesicles on the surface of the fruit to burst and give up the essence contained in them, which is afterwards collected with a sponge. These rinds are sometimes distilled; but the former process, which is called by the French *au zest*, gives a much purer essence.

There are flowers with fugitive odours, such as jonquil, white jasmine, tuberose, and mignonette, the perfume of which is very difficult to fix. Ordinary distillation gives a weak product, and that with alcohol is not more satisfactory. To secure their odours a process of absorption called the cold enfleurage process is adopted. Tablets of glass, in wooden frames, are spread over with fat, and the flowers strewn upon them heads downwards. These frames are piled up, so as to form columns of about the height of the workmen. The flowers are daily renewed until the fat has absorbed a sufficient degree of perfume.

For such flowers as yellow jasmin, orange-flowers, cassie,

reseda, violets, hyacinth, narcissus (daffodils), a process of digestion is employed, usually termed maceration. The flowers are picked and macerated in melted fat—a mixture of two-thirds purified lard and one-third refined tallow. The mass is pressed out after a reasonable time, and the infusions renewed until the fat is sufficiently saturated with the odorous principle to represent, according to purpose, a number six, twenty-four, or thirty-six pomade.

Scented oils are prepared by putting the flowers on thick cotton sheets, previously soaked in the finest olive oil.

From the pomades referred to what we know as French essences are prepared by macerating them in alcohol for about 15 days. The alcohol seizes the odiferous molecules, and afterwards, being filtered, is used as perfume for the handkerchief.

The eight odours enumerated in these processes are used as the basis of all other pomades and extracts, the addition of various ingredients, such as Tonquin beans, Siam henzion, vanilla, musk, and essential oils being made to form the other odours.

The foregoing processes are those generally adopted by the perfumer for extracting odours, but, like every other industry, attempts are being made towards the more economical and scientific production of these substances.

A mode of enfleurage has been devised by Mr. D. Séména, of Nice, which has been found to offer some advantages. Instead of laying the flowers upon the grease, he spreads them on a fine net mounted on a separate frame. This net is introduced between two glass frames, covered on both sides with grease. The whole series of frames is enclosed in an air-tight recess, and all that is required is to draw out the nets every morning and fill them with fresh flowers, which give their aroma to the two surfaces with which they are in contact. This system saves the waste and labour resulting from having to pick the old flowers from the surface of the grease, and produces also a finer fragrance.

A very curious pneumatic apparatus has been invented by M. Puer, of Paris. It consists in a series of perforated plates, supporting flowers placed alternately with sheets of glass overlaid with grease in a chamber through which a current of air is made to pass several times until all the scent of the flowers becomes fixed into the grease.

Chemistry has not been behindhand in its attempts to extract the natural odours of flowers. M. Millon, a French chemist, patented a process for extracting the aroma of flowers by placing them in a percolating apparatus and pouring over them ether or bisulphide of carbon, which is drawn off a few minutes after, and carries with it all the fragrant molecules. It is afterwards distilled to dryness, and the result obtained is a solid waxy mass, possessing the scent of the flower in its purest and most concentrated form. This process, although very ingenious, has not received any practical application as yet, owing to the expense attending it, some of these concrete essences costing as much as 50l. an oz. It has, however, served to prove the total impendability of fragrant molecules; for, although this substance, from its high state of concentration, appears at first sight to be the solidified principle of scent, if it be treated several times with alcohol it gradually loses all its perfume, and yet the residue is not found to have lost one atom of its weight.

—*Pierre*.

M. Massignon suggested that chloride of methyl would be a useful material with which to exhaust the flowers of their perfume, but this process presents so many difficulties that it has not as yet proved successful; in fact, the old lines seem to be acted upon for practical working.

Distilled Waters.—The chief of these is rose-water. The pale rose, as the richest in perfume, is selected to make the water. The roses are collected early in the morning, in dry weather. The leaves are separated and put into an earthenware jar, and one quart of water for every pound of leaves is poured upon them—some add an ounce of salt—and allow it to macerate until the next day. The flowers are placed upon diaphragm in a metallic cloth. If 6 or 8 lbs. of flowers are used, they are covered with double their weight of water. This done they are heated in the still slowly to 212°. The distillation then takes place. To obtain rose-water of good quality only half of the water poured into the alembic is distilled. The concentrated water is obtained by substituting fresh flowers for those which have already been submitted to distillation, the water of the

first distillation being used instead of ordinary water, a new distillation is made, and the water thus obtained is very sweet.

The study of the numerous compounds of organic chemistry, especially the ethers derived from spirit and fusel oil, has produced an industrial result as curious as interesting in view of its various applications. Indeed, while chemical analysis found in the composition of some perfumes, real organic ethers (the odour of geranium is said to be due to the presence of pelargonic ether), synthesis, on the other hand, realising the production of these same ethers, has taught the chemist to prepare them in such a state of purity that it is easy to confound them by their physical properties with the natural odours.

Dr. Hoffman and Mr. De la Rue, jurors of the Great Exhibition of 1851, found that some of the most delicate perfumes were made by chemical artifice, and not, as of old, from natural flowers, but we may even get artificial odours, by combination of the natural odours of plants. The delicate heliotrope (whose flower gives a fragrance which is well known to Englishmen, as it is plentiful in this country) is so fugitive that the collection of its fragrant molecules by ordinary means is unprofitable to the perfumer, and it is not obtainable; but all the essence of heliotrope sold and accepted by mankind as the natural odour is a combination of vanilla, rose, orange-flowers, ambergris, and almonds.

You will also be aware that we have artificial coumarin, categrin, heliotropin, and vanillin, all obtained by chemical decomposition, but not having any practical application as yet; and I note that the latter has been obtained from oil of cloves. The application of the term artificial odours is not a misnomer, when it is shown that identical odours may be obtained artificially, and also as the constituents of other odours. Again, look at the enormous consumption of oil of mirbane, nitro-henzine, an artificial odour used instead of oil of bitter almonds to perfume soap, very different in its chemical composition from the other compounds to which I will now again refer. From the double discovery alluded to has arisen an industry which has acquired considerable importance all over the world. Its object is to manufacture liquids, often complex in their composition, which, when dissolved in a certain quantity of pure alcohol, are known by the name of artificial oils. Compounds may also be prepared which communicate to ordinary alcohol the odour, but not the qualities, of brandy, whisky, &c., and others to which the term "flavour" is more applicable, which are much used in confectionery, possessing the taste of pineapple, strawberry, pear, apple, &c. In text-books we find tabulated forms for the manufacture of artificial flavours, but these are not reliable. As a matter of fact, artificial flavours are the results of experiment and practical experience, and their actual composition is naturally kept secret by the manufacturers.

Singularly enough, as you know, these flavours and odours are derived from substances intensely disgusting, but they are quite innocuous in the proportion in which they are used by confectioners, viz., $\frac{1}{2}$ drop to 1 oz.

The introduction of these artificial fruit essences originated with the discovery of the fact that the peculiar flavour of pineapple-rum was due to butyric ether, which has since been obtained from the fruit itself. Artificial oil of pineapples is the product of the action of rotten cheese on sugar, after distilling it with alcohol and sulphuric acid.

We can all call to mind the intolerable smell of rotten apples. In the manufacture of valerianic acid, chemists find the same smell, and practical men have discovered by which choice and combination it is possible to imitate the odour of particular fruits to such a nicety that makes it probable that the odour of the fruit is owing to a natural combination, identical to that produced by art, so much so that we are able to produce from fruits the same combination.

I find, sir, I have undertaken a subject this evening of enormous dimensions. I feel that there are many omissions; but if I have afforded you any interest in the somewhat cursory manner in which I have laid it before you, I am rewarded—perhaps some incentive for our younger members to cultivate the sense of smell, and value in their detection those products of bountiful nature with which we are almost daily in contact. I desire to acknowledge my obligation to Mr. Rimmel, of London, and Messrs. Lautier fils, of France, for information confirmatory of the facts I have stated.

PRACTICAL HINTS ON THE EXAMINATION OF URINE.

A Paper read before the Chemists' Assistants' Association, February 6, 1883.

By W. TEMPLE COOPER, JUN.

AS pharmacists we are frequently called upon by the medical profession and by their patients to examine urine, in order to aid the former in diagnosing disease. This is one of the numberless opportunities which daily occur of putting into practice that knowledge which we have acquired, and which, we imagined, was solely required by the examiners.

In treating this subject I first call your attention to urine in its normal state.

Normal Urine is a pale yellow fluid separated from the body by the kidneys, and containing in solution various compounds, of which the most important are organic nitrogenous bodies produced by the wear and tear of animal tissues: namely, urea, uric acid, hippuric acid, creatine, and colouring-matter; there are, besides, sodium and potassium chlorides, phosphates and sulphates, calcium and magnesium phosphates, ammonium chloride and phosphate, iron and silica.

Urine has a faint acid reaction when fresh, the quantity evacuated being variable; during the day the average may be taken as 5½ fl. oz. The acidity of normal urine is equal to a 2 per cent. solution of oxalic acid, and is estimated with phenol phthalein and solution of caustic soda. The effect of food on the urine is somewhat remarkable, for in carnivorous animals, the urine of which resembles that of man, the urine is clear, with a large quantity of urea and an acid reaction, while in herbivorous animals we find an alkaline reaction, and a muddier appearance, together with a considerable amount of carbonates and hippuric acid.

Human urine contains the following constituents in 1,000 parts.

	Parts
Water	933.02
Urea	30.10
Lactates and extractive matter	17.14
Uric acid	1.90
Potassium and sodium sulphates	6.87
Sodium phosphate	2.92
Ammonium phosphate	1.65
Calcium and magnesium phosphates	1.00
Sodium chloride	4.45
Ammonium chloride	1.50
Silica	0.03
Mucus	0.32

(Fowne's.) 1,000.00

When urine is allowed to remain exposed for some time, it loses its acid reaction, becomes turbid from deposition of earthy phosphates, and alkaline from formation of ammonium carbonate and hydrate. This alkalinity is due to fermentation set up in urine by decomposition of epithelial debris, &c.

Urea, the most important constituent in urine, forming nearly one-half the total solids, is derived, from two sources, the unassimilated elements of nitrogenous food, and the disintegration of the nitrogenised animal tissues. That the latter is so is proved by keeping all nitrogenous substances from the food, or by abstaining from food for a few days, and urea will still be found in the urine.

Urea is found in the urine of mammalia, birds, and reptiles, but is most abundant in the urine of carnivorous animals. In various diseases the quantity of urea is often reduced below the average contained in healthy urine, while in other cases it is above it. An average of 270 grains of urea is secreted by a healthy man in twenty-four hours. Urea exists already formed in the blood, and is simply abstracted therefrom by the kidneys.

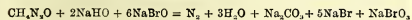
The process for obtaining urea is to evaporate urine in a water-bath to the thickness of honey, shake up with alcohol, separate the alcoholic solution, and evaporate and purify by repeated solution in alcohol, and crystallisation. It appears as delicate acicular crystals, soluble in an equal weight of cold water, more soluble in hot water, very soluble in

alcohol. When heated it melts, and at 160° C. gives off ammonia and leaves behind cyanuric acid. It is decomposed when heated with strong mineral acids, or with caustic potash or soda, carbonic acid and ammonia being formed. It was first prepared artificially by Professor Wohler, who thus commenced the demolition of the supposed barrier between inorganic and organic chemistry.

Urea is decomposed by hypobromite of sodium, the nitrogen being liberated, and this fact has been taken advantage of in the estimation of urea in urine, resulting in a convenient form of apparatus by Russell and West, and, although not a test often required, I should like to call your attention to the apparatus lent me by Messrs. Cetti & Co., Brook Street, Holborn (which the lecturer explained).

The hypobromite solution is prepared by dissolving 100 grammes of caustic soda in 250 c.c. of water and adding 25 c.c. of bromine, keeping the mixture cool till dissolved.

The reaction is represented by the following equation:—



Urea forms salts with many acids, two of which, the nitrate and oxalate, are of especial interest. Nitrate of urea is freely soluble in water, but not in water containing nitric acid. It is easily obtained by evaporating urine to about a sixth of its bulk, and adding when cold an equal quantity of strong nitric acid, when the nitrate will crystallise out in single plates, or massed together overlapping one another. Oxalate of urea, formed by adding oxalic acid to urine concentrated to one-eighth its bulk, is readily soluble in water, but is precipitated by an excess of oxalic acid.

Uric Acid, the second in importance of the organic bodies found in urine, is present in the urine of all animals and in the excrement of reptiles and insects. Some authorities consider that the food influences the varying proportions of uric acid as it does of urea, but this is disputed.

Uric acid, along with urea, is found in the same urine, but urea seems to be able to replace uric acid, as exemplified in the feline tribe, and uric acid to replace urea, as in reptiles and birds, although the relations which they bear to one another are not fully understood.

Uric acid is found in the blood in increased quantities in gout and some other diseases, and is often deposited in the former case around the joints as urate of sodium, commonly called chalk-stones.

A reddish-brown sediment is sometimes passed with the urine, which is the most common form of uric acid, and consists of urate of ammonium and sodium, owing its colour to the presence of a pigment called purpurine.

By oxidation uric acid is converted into carbonic acid and urea.

To obtain crystals of uric acid, mix the urine with hydrochloric acid, in the proportion of 1 of acid to 20 of urine, and allow the mixture to stand about forty-eight hours, when crystals will be deposited, which are easily detected by the microscope or by the "murexide test," a name derived from the colour produced. A little of the uric acid deposit is evaporated to dryness, with a drop or two of nitric acid, and the residue touched with a drop of ammonia and warmed, when a purple colour results, due to the action of ammonia on alloxan and other products of the oxidation of uric acid by nitric acid.

Hippuric Acid exists in human urine, generally combined with sodium, and equal in quantity to uric acid. It is probably in part derived from a vegetable diet, though an appreciable quantity is found in urine from subjects living exclusively on animal diet. It is closely allied to benzoic acid, and when a dose of this substance is taken it passes from the kidneys as hippuric acid.

The specimen I have prepared was obtained from 1 litre of urine after 20 grains of benzoic acid had been taken, the method adopted being Löwe's, viz., treating the urine with sulphate of zinc (3 grammes) and evaporating it with the resulting precipitate to one-sixth of its volume, filtering and adding hydrochloric acid; the hippuric acid separates in about eight or ten hours, and can be recrystallised from alcohol.

Hippuric acid subjected to the action of boiling nitric acid, evaporated to dryness, and heated in a glass tube, evolves the odour of nitro-benzol, and is thus distinguished from uric acid. Hippuric acid is only likely to be confounded

with benzoic acid, but, on heating, benzoic acid passes off in vapour, while hippuric acid is decomposed.

Creatine and *Creatinine*, two crystalline bodies only found in urine in small quantities, are supposed to be derived from muscular tissue, and, although nearly related to urea, are more highly complex bodies.

Creatine is converted into creatinine by boiling with strong acids, and if boiled with solution of baryta is converted into sarcosin and urea, which urea on further boiling is changed into ammonia and carbonic acid. Creatine was discovered by Chevreul, and was studied by Liebig.

Creatinine forms the strongest organic base in the animal kingdom, and its taste is almost as pungent as ammonia. The colouring-matter of urine is composed of various pigments, one of which may be seen on impure uric acid crystals giving the red colour.

The principal among the mineral constituents of the urine is the acid phosphate of sodium, to which the acidity of urine is due. *Phosphates* enter largely into the composition of brain and nerve tissue, hence that found in urine may be from metamorphosis of these tissues, but the greater part is derived from the phosphates in the food, which are not absorbed in anything like the proportion in which they are taken into the stomach. The amount excreted is very variable, vegetable food and any undue exercise of the brain largely increasing it. When urine undergoes alkaline fermentation phosphates are deposited in the form of a urinary sediment, consisting chiefly of ammonium and magnesium phosphates. On the addition of ammonia to acid urine the precipitate of phosphates which is at once thrown down will readily prove the presence of phosphates in combination with calcium and magnesium.

Chlorides (which exist almost entirely as chloride of sodium), sulphates, ammoniacal salts, traces of iron in the colouring-matter, and silica are substances it is not necessary to mention tests for, as they do not denote any special condition of the body in health or otherwise.

ALBUMEN is the most important of the abnormal constituents of urine, as it is the most important of the materials required for the maintenance of the body. It exists in two conditions—soluble and insoluble; it is found in the soluble state in the body, and "its solution does not depend solely upon the presence of water, but is in part attributable to the presence of saline matters, and more especially of a free alkali."—*Vogel*.

Albumen is converted from the soluble into the insoluble state by most acids; it is dissolved on heating with caustic potash, with formation of an alkaline sulphide, and sulphuretted hydrogen is evolved on the addition of an acid, showing the presence of sulphur as one of the constituents of albumen.

The presence of albumen was originally supposed to be proved in a solution if coagulation took place in the clear liquid after boiling, but, as phosphates are precipitated on warming, it is advisable to add a little dilute acid afterwards, which will redissolve the phosphates, but will not affect the albumen.

Concentrated acetic acid and nitric acid will dissolve albumen if assisted by heat; it will not coagulate on heating in an alkaline or a very acid solution, and, if dilute, often requires continued boiling to produce a distinct coagulation.

If a little nitric acid be poured into a test-tube and the urine allowed to run down the side of the tube, so as to cover the nitric acid without disturbing it, a distinct ring of albumen will be seen if there is the slightest trace present.

A solution containing ferrocyanide of potassium and acetic or citric acid is, if possible, more delicate than the nitric acid, but a strong mineral acid must not be used, as it sets up a decomposition, the products of which are very complicated, among which may be mentioned hydrocyanic acid, Everitt's yellow salt, urea, &c.

Among the many tests for albumen which have been used may be mentioned mercuric nitrate in nitric acid, which gives an intensely red colour when heated with an albuminous fluid, which colour is lasting and not affected by exposure to air.

Metaphosphoric acid is also a particularly delicate test, and requires no heat, but the chief objection to this acid is that it should be dissolved as wanted, for an aqueous solution of the acid is slowly converted into the ortho-

GRAPE SUGAR is found in the body normally, and generally in the urine in the faintest trace, but when the presence of sugar is evident to the ordinary tests, it becomes of serious import to the doctor and patient; it usually occurs in a special form of diabetes, hence the name (diabetes mellitus), and in but few other cases. It is the next abnormal constituent in importance to albumen, and is one with which the chemist has more to deal. That the quantity of sugar in urine is largely affected by food I found well shown in a sample of urine I had to test, which gave no indication of sugar with the cupric solution; yet, after the person had been living on oatmeal porridge for about twelve days, the test was immediately reduced, and on discontinuing the diet for a week, the urine would not give a trace of sugar. Urine containing sugar is generally frothy, pale in colour, and of high specific gravity, 1.045 having been known containing 8 per cent. of sugar. The method adopted by physicians of the old school for detecting the presence of sugar was tasting, but chemistry, with its rapid strides, has driven out this primitive method.

Moore's Test was, and is still, used by some medical men; it consists of adding an equal volume of liquor potasse to an equal volume of urine, and warming, when, if sugar be present, the fluid turns brown, the shade depending on the amount present. It will be found advisable before testing for sugar to remove the albumen in the way above described.

On adding molybdate of ammonium and nitric acid to the urine, and boiling, a blue colour will result if sugar be present.

The *Bismuth Method* of Professor L'Éve consists of sub-nitrate of bismuth (15 grammes) dissolved in pure glycerine (30 grammes), added to a solution of caustic soda (sp. gr. 1.31; 60 to 70 c.c. diluted to 150 or 160 c.c. with water). This mixture is heated to 100° C.; if any reduction takes place digest at 100° C.; allow the solution to stand, and decant. The test solution is added to the urine, and the mixed solutions boiled for a few seconds; if sugar is present the precipitate is ultimately black. This solution is said to be more staple than the copper solution. (*Practitioner*, 1881.)

If a weak solution of nitrate of silver be poured into diabetic urine to which a drop of ammonia has been added, and the whole boiled for a short time, metallic silver will be deposited in the form of a mirror; other bodies, as tartaric acid, &c., reduce the silver.

The *Fermentation process* is readily performed by mixing a little yeast with the saccharine urine in a small flask, which communicates by means of a glass tube with a flask containing lime-water, and keeping the flasks in a temperature of about 26° C.; the mixture will soon become turbid, and gas evolved, which, passing into the lime-water, will throw down a precipitate of carbonate of calcium. The alkaline picrate of potash test is a comparative colour test, and an important objection to it is the want of a standard colour to judge by. The simplest, although, perhaps, not the most delicate, test is that known as Fehling's copper test, which can easily be applied by dissolving sulphate of copper (1 gr.) and Rochelle salts (5 grs.) in a little water (5j), then adding a sufficient quantity of caustic soda or potash (3 grs.), or their equivalent in liquor potasse to redissolve the precipitate first formed, with the production of a fine clear blue colour. On boiling equal parts of this solution and diabetic urine together the copper will be precipitated as cuprous oxide. This preparation does not keep, and as it is easily made it is better to prepare it fresh, as wanted, or keep the salts dissolved in equal quantities of water in separate bottles, and not as recommended, by Dr. Piffard, I believe, make a paste of the articles and keep for use as wanted.

QUANTITATIVE TESTS FOR SUGAR.—Fehling's solution is prepared by dissolving 34.64 grammes of pure sulphate of copper in 200 c.c. of water and 173 grammes Rochelle salt in 480 c.c. of caustic soda solution, sp. gr. 1.14 (soda solution sp. gr. 1.14 = 80 grammes to the litre), mixing the two solutions and diluting to 1 litre. A little of this solution diluted with water and boiled for a few minutes should remain clear. Having a burette and small flask ready, 10 c.c. of the Fehling's solution are measured into the flask and

diluted with 30 c.c. of water; the liquid is then raised to boiling-point, and the saccharine urine run in slowly from the burette, boiling between each addition; when the blue colour has nearly disappeared, the urine should be added more cautiously, although it is desirable to complete the test as rapidly as possible. The end of the reaction is reached when, on removing the flame and allowing the cuprous oxide to settle, the supernatant fluid appears colourless or faintly yellow when viewed against a white surface. The quantity of urine used is now read off, and as 10 c.c. of Fehling's solution are equivalent to .05 gramme of glucose, it will be easy to calculate the amount of sugar in a certain amount of urine.

The ammoniacal cupric solution was introduced by Dr. Pavy, and is Fehling's solution with the addition of solution of ammonia, which prevents the precipitation of the cuprous oxide on running in the saccharine urine, although the blue colour of the liquid is destroyed by the latter. This test also requires the use of a burette and a carefully standardised solution, but after the experiment has been performed once or twice it becomes very easy if one or two data are borne in mind: (1) the quantities of the test to be used; (2) the amount of sugar which decolorises a certain amount of the solution; (3) the importance of operating quickly, for, if the boiling is continued too long, the cuprous oxide will come down, and also if the boiling is not continuous from the beginning of the experiment. As the ammoniacal cuprous solution is extremely oxidisable, the blue colour being restored by oxidation, it is necessary to avoid excess of air; this is best done by attaching the burette containing the urine by a piece of india-rubber tubing to a piece of glass tube passing through the cork of the small flask containing the copper solution; a second tube conveys the steam and ammoniacal gas away.

One hundred c.c. of the solution are placed in the flask, the flask attached to the burette by the cork, and the liquid raised to boiling-point; the saccharine urine is then gradually run in from the burette, the boiling being regular; the process is at an end when the blue colour is entirely destroyed.

This test becomes more delicate by using 10 c.c. copper solution and diluting, and also diluting the urine; about 1 of urine and 9 of water gives a good reaction with the ammoniacal cupric solution.

The ammoniacal solution is prepared by mixing 120 c.c. of Fehling's solution with 300 c.c. of strong liquid ammonia, .880, and 400 c.c. more caustic soda solution of 1.14 sp. gr., the mixture is then made up to 1 litre. One hundred c.c. of this solution correspond to .05 gramme glucose.

In estimating with silver, the cuprous oxide is obtained from the Fehling's solution in the usual way, dissolving it in hydrochloric acid, addition of strong solution of ammonia, and the resulting solution poured into a solution of nitrate of silver; the resulting metallic silver, which is immediately precipitated, is separated by filtration, and calcined at a red heat, and the weight of silver taken, using Swedish filter-paper, as the weight of their ash is so small, 3½-inch paper = .0016 gramme. Experiment and calculation on pure materials has shown that 100 of glucose is equivalent to 500.6 metallic silver; from these data the amount of glucose in a known quantity of urine can be gravimetrically determined.

BILE.—For examination of this abnormal constituent, the test of the Pharmacopœia for ol. morrhue is the best.

A good method of applying this test is to dissolve about 1 grain of white sugar in 3 or 4 drops of water, and adding the strong sulphuric acid to it, keeping the test-tube in a measure of cold water to prevent charring of sugar by the acid, mix well with a glass rod, and pour the suspected urine down the side of tube to float on top of the acid; if a trace of bile be present, the characteristic purple colour will be produced.

Another test, which is only to be depended on where bile is present in appreciable quantities, is to place a few drops of nitric acid and a few drops of urine together on a white plate and observe the different shades of colour.

BLOOD.—Urine containing blood is highly coloured, and, when fresh, if put under the microscope, will show the red corpuscles, either singly or in rouleaux, floating in it. The corpuscles lose their characteristic coin-shape, after a time becoming angular, owing to osmosis.

Urine can also be tested for blood by Day's test, with fresh tincture of guaiacum and peroxide of hydrogen. A drop of urine and one of tincture of guaiacum are put on a piece of white paper, and then one or two drops of peroxide of hydrogen; a blue colour will be imparted to the paper when dry if blood be present.

The decomposition of pigment matter produces free lactic and acetic acids, and then free uric acid, acid urates, and oxalate of calcium are thrown out as sediments. This is caused by acid fermentation, the sediments caused by alkaline fermentation being urate of ammonium, phosphate of calcium, and ammonio-phosphate of magnesium. A small chart for examining urinary sediments is given in Professor Atfield's Manual, and as further proof we must have recourse to the microscope, and be guided by the plates on urinary deposits found in connection with most works on urine.

Among the accidental substances found in urine may be mentioned rhubarb, gamboge, logwood, &c., which affect its colour, and asafetida, valerian, turpentine, &c., affecting the odour; but as these are only likely to occur when these substances are taken as medicine, they are not of interest to those who only want easy and practical tests for the commoner abnormal substances.

In almost all cases the tests referred to have been verified by actual experiment, and by several years of practical experience of the subject.

COLOURED INSECT POWDER.

BY W. L. HOWIE, Ph.C., F.C.S.

INSECT POWDER, which is commonly understood to be the ground flower-heads of *Pyrethrum cinerariaefolium*, is met with in colour varying from a pale dull drab to distinct yellow, which latter colour, from direct experiment, I have found it impossible to obtain from the flowers themselves. The sorts commonly met with, both "open" and "closed"—even the yellow-disc florets carefully separated—will not yield a powder with more than a faint yellowish shade; while the flowers of *Pyrethrum roseum*, which were at one time considered the true insect flowers, give quite a dark powder. With this strong presumptive evidence that some artificial means of heightening the colour is resorted to, and with the object of determining exactly the colouring agent, I some time ago directed my attention to this subject, and found that, although genuine powder was by no means uncommon, yet in at least as many instances the article offered for sale, both as English and foreign ground, was more or less adulterated. Various substances have been from time to time mentioned as the colouring agent, the latest, perhaps, being fustic, which Mr. M. Conroy stated at a recent meeting of the Liverpool Chemists' Association he had found in large quantity in some samples of foreign powder. I have not met with this adulterant, although it was specially looked for, but I have yet to find a satisfactory method by which fustic, as well as other dye-stuffs, which, I suspect, are used to reduce or colour the powder, may be detected with certainty, especially when the proportion of contamination is small.

I have found microscopical examination unreliable, artificially-coloured insect powders, to my knowledge, being passed as genuine even by a skilled microscopist, and I have found comparison with test samples prepared by blending various pigments with genuine powder in a mortar very misleading, as little difficulty is then experienced in detecting the specks of the colouring ingredient, but in the commercial powders the pigment is without doubt added during the grinding process, and becomes so incorporated with the particles of vegetable tissue as to escape any but an experienced eye, even when aided by the polariscope. I have therefore not relied upon the microscope, finding chemical method more exact and trustworthy.

I have examined about twenty samples, which were either purchased, as commonly sold, in small boxes, or obtained as *bond-fide* samples offered by wholesale dealers to retailers in the ordinary way of business. With the exception of No. 3 following, all are powders from well-known firms, most of whom claim to be grinders. Selecting twelve as typical

both as to source and general character, I placed them side by side and arranged them according to their depth of yellow colour, with the following result:—

Vendors' Description	Colour	Adulterant
Nos.		
1. "Insect powder" ..	Drab	Genuine
2. " " " " ..	"	"
3. " " " " ..	Olive drab	"
4. "Closed flowers" ..	Yellowish	"
5. " " " " " " ..	"	"
6. "Open flowers" " " ..	"	" (?)
7. Box powder ..	Yellow	Chrome
8. " " " " " " ..	"	"
9. "Opt." " " " " ..	"	"
10. "Closed flowers" " " ..	"	Turmeric and chrome
11. "Foreign" " " " " ..	"	Chrome
12. "Dalmatian" " " " " ..	Very yellow	Turmeric

After arranging the powders in this manner by the eye, it was apparent that between the colours of Nos. 6 and 7 there was a perceptible gap, and when, by testing, it was proved that Nos. 7 to 12 were artificially coloured, it will be seen that appearance is some indication of genuineness.

For further examination I discarded the first suggested plan of igniting the powder with potassium nitrate and testing the residue, and prefer what I think a more delicate and easy, even if somewhat crude, method.

Incinerate say 20 grains of the suspected powder on platinum foil, and carefully weigh the ash, as well as note its character. For example, take No. 3, which had been reduced to powder in a mortar by myself from authenticated flowers. The ash was grey in colour, and weighed 1·2 grain. This is placed in a test-tube, and a few drops of strong hydrochloric acid added, which causes some effervescence; heat is then applied to dissolve the ash, which consists chiefly of potash salts. The solution is colourless, and the addition of a little water prepares it for the application of the usual tests. Sulphuretted hydrogen gives no precipitate, nor potassium iodide a yellow colour nor precipitate, but it ought to be here noted that a black precipitate is obtained by ammonium sulphide, and dark blue by potassium ferrocyanide, indicating iron, which I found in small quantity in the ash of the genuine flowers, as well as in that of all the powders. This metal seems to exist in greater abundance in the florets, and to less than half as much in the seeds, and the indications of iron must be carefully noted, as I have found two powders containing it in such quantity as to suggest that some ferruginous earth, such as ochre, had been used to make weight or colour. One of these powders is a proprietary article, and the other a small odd sample, which I cannot replace, therefore neither appears amongst the selected twelve.

The behaviour of a powder coloured with the usual adulterant, viz., yellow chrome, is quite different. The colour of the ash is brownish, or yellow, with patches of brown at the most exposed parts, and the weight is greater: thus, 20 grains of No. 7 yielded 2·1 grains. There is the same effervescence with hydrochloric acid, but part is insoluble, and the solution on boiling becomes distinctly green, which, with a black precipitate with sulphuretted hydrogen, may be taken as conclusive proof of the presence of lead chromate. Potassium iodide gives a yellow colour, and if the hydrochloric acid be not in excess or the lead thrown down by over-dilution, a yellow crystalline precipitate separates. Any attempt to judge of the amount of added chrome by estimation of the lead present I found futile, which is readily understood when it is remembered that the finer chromes are "struck" on magnesia, and undoubtedly the alkaline earths are found to bulk largely in the composition of many.

No. 12, although of a strikingly deep yellow colour, gave only 1·2 grain of grey ash, and thus suggested that some organic colouring had been used, and on the sample being tested by the method devised by myself for the detection of artificial colouring in rhubarb and other powders (Year-book of Pharmacy, 1873) the supposition proved to be correct.

Pieces of white blotting-paper corresponding to the number of samples are taken and named or numbered, and a few grains of the suspected powder placed in the centre, and pressed compactly down with a piece of paper or a spatula; chloroform (or other menstruum) is then carefully dropped

on the centre of the powder till it has moistened all, and extended some distance over the paper, which is then allowed to dry, wiped free of the powder, and the stain, if any, tested by suitable reagents.

Treated in this manner the genuine powder yields a slight yellow colour to the paper; but No. 12 and 1, in less degree, No. 10 gave a very distinct stain, which an atom of boracic acid (or borax) and a drop of hydrochloric acid at once identified as due to turmeric. The stain from genuine powder becomes bluish green with nitric acid, brownish with sulphuric, and only exhibits a slight darkening with potash solution. The turmeric stain becomes reddish brown with nitric acid, dark brown with sulphuric acid and with solution of potash. Fustic seems to yield nothing to chloroform, but a yellow stain obtained with alcohol becomes a distinct brown with nitric acid, and shows little change with sulphuric acid or potash. Solutions of a ferric salt strike a bluish black both with the fustic and pyrethrum stain obtained with alcohol.

When fustic is boiled for some time in water with zinc and sulphuric acid, the solution gradually assumes a bright red colour, owing to the transformation of one of the colouring principles, morin-tannic acid, into phloro-glucins and machromeine.

The flowers of *Pyrethrum cinerariaefolium* treated in the same fashion show no change, but I have been unable to get this very promising reaction to indicate distinctly anything under 20 per cent. of fustic in insect powder, although I am hopeful that an improved method may yet result in greater delicacy.

No.	Percentage of Ash	No.	Percentage of Ash
1	6.2	7	10.5
2	7.1	8	9.6
3	6.0	9	9.2
4	6.8	10	8.0
5	6.2	11	9.4
6	6.2	12	6.0

The above table shows the percentage of ash yielded by the twelve selected samples, and, comparing that with the names given by the vendors, little relation will be observed between them. From more exact analysis I take the first six to be genuine powders, with the exception of No. 6, which has a suspicion of some dye-wood which I have not yet identified attached to it.

The greater weight of ash obtained from these "genuine" commercial powders is accounted for by the presence of a small proportion of sand, which all such vegetable powders contain, and which was eliminated from the selected flowers used for No. 3.

Nos. 7 to 11 are adulterated with chrome from 3 per cent. to nearly 6 per cent.; No. 10 has the addition of a very small percentage of turmeric, and No. 12 quite 5 per cent. of that root, the characteristic glittering particles of which could readily be seen with an objective of moderate power.

It is not to be assumed that, excepting these comparatively slight admixtures, these powders are genuine, for, although undoubtedly it is had enough when, having ordered a hundredweight of insect powder, one finds 5 lbs. to 7 lbs. of chrome yellow, costing *id.* to *10d.* per lb., as part of the delivery, the presence of such extraneous colour is suggestive of its being merely a cloak for a more weighty adulteration such as Mr. Conroy has discovered, or as that referred to by Mr. E. V. Riley (*Pharmaceutical Journal* (3), vol. xii., p. 789), who says that "The stalks and leaves are ground with the flowers in the proportion of one-third of their weight;" whilst on the authority of H. Kalthruner (*Pharmaceutical Journal* (3), vol. v., p. 305), "the plant itself (minus the flowers) powdered appears to be quite inactive."

In face of the foregoing facts it seems advisable that purchasers should avoid the foreign powder, which seems to be always coloured, and not too trustingly accept any guarantee, even of professed grinders, but verify for themselves each purchase, which by the means above stated can be readily done in a few minutes even by a junior assistant.

PROFESSOR BLOXAM (in the *Chemical News*, April 13) shows how nitro-glycerine can be reconverted into its comparatively innocent constituents by means of sulphide of potassium or sulphide of ammonium. He thinks the calcium sulphide of tank waste from alkali-works might answer. Such experiments may wisely be left to professors.

Scientific Notes :

On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.

TO DETECT CASTOR OIL IN ALMOND OIL.

On shaking with ammonia pure almond oil gives a perfect emulsion, whereas in the presence of only 5 per cent. of castor oil drops of oil separate at the bottom, the quantity increasing of course with the percentage of castor oil present. Another method is that based on the formation of oenanthol from castor oil. The sample is mixed with rectified spirits of wine, the alcoholic solution evaporated on a water-bath, and mixed with quicklime and concentrated caustic potash. On heating it now in a test-tube, the characteristic smell of oenanthol is produced if any castor oil has been present.—W. B., in *Journ. of Soc. of Chem. Ind.*

TESTING BITTER-ALMOND OIL.

THE pure oil dissolves in 20 parts of water. Adulteration with other oils, such as mirbane, is shown by the latter remaining undissolved. Mirbane is also detected by its being converted into an insoluble resin on heating with alcoholic potash. Bitter-almond oil, for use in perfumery, should contain no prussic acid.—*Journ. Soc. Chem. Ind.*, from *Seifens Zeitung*.

MANUFACTURE OF PAPER FROM WOOD AND STRAW.*

G. ARCHBOLD states that H. Mitscherlich's suggestion of making paper from wood by the action of reducing agents dissolved in water and acid—for instance, sulphurous acid—is not practicable on account of the waste of time and high pressure necessary, and has patented the following method in the United States and Canada :—

Wood or straw, cut into small pieces, is macerated for twelve hours with dilute milk of lime, whereupon the mass is placed in a digester and saturated therein with sulphurous acid under a pressure of four to five atmospheres. Within the space of one or two hours the structure of the straw or wood becomes so loosened that after the mass has been washed out it only requires further treatment with an aqueous solution containing three per cent. of calcium chloride and $\frac{1}{2}$ per cent. of aluminium sulphate under pressure to bring it to the external appearance of cotton, and in this state, after washing out the salts, it may be at once worked up for the finest sorts of paper.

The operation from beginning to end requires but three hours.

CONIFERINE IN BEETROOTS.

EDMUND O. VON LIPP MANN, in the *Berichte der deutschen chemischen Gesellschaft*, January 22, 1883, confirms Scheiher's former assumption that coniferine is the mother-substance of vanilline, and at the same time describes a method of extracting coniferine from beetroots. Woody, but sweet, beetroots, which give a good reaction with phenol and hydrochloric acid, are cut into slices, and extracted with absolute alcohol in a copper furnished with a helm so arranged that the alcohol continually flows back until the alcoholic extract ceases to polarise. The alcohol requires renewing three or four times to extract all the sugar, and the hoiling must be continued for $1\frac{1}{2}$ hour at each operation. After drawing off the alcohol, and when the beet slices have cooled, they are slowly stirred several times during the next 24 hours with cold water, and left to stand, pressing or squeezing being avoided. The whole is then covered with boiling water and boiled until the beets swell up; the mass is then carefully pressed out in a cloth, and the liquor, which must be quite clear and but slightly coloured, boiled down. When the greater part of the water has evaporated, the solution is treated with sugar of lead, and if this produces only a slight precipitate, or none, basic acetate of lead and ammonia are added. These reagents must be added very carefully, and in small portions at a time, so as to avoid any excess, since the precipitate formed contains muc-

* *Berichte der deutschen chemischen Gesellschaft*, February 26, 1883.

lagnous substances soluble in an excess of the precipitant, and cannot afterwards be removed. The whole is now filtered; any traces of lead precipitated with carbonic acid and filtered off. Should a portion of this filtrate, on being tested with sulphuretted hydrogen, be darkened by this reagent, it is a proof that the filtrate contains organic lead salts not precipitated by carbonic acid, in which case a perfect purification cannot be effected, and all further labour is useless. Should this, however, not be the case, the filtrate is carefully evaporated to a thick syrupy consistency, whereupon a darkish coloration takes place, and a smell of vanillin is noticed. The syrup is placed in several flat vessels in desiccators over sulphuric acid to crystallise out, a crystal or two of previously-formed coniferine having been first added to each vessel to accelerate the crystallisation.

The author considers that coniferine is not contained freely formed in any considerable quantities in the cells of the beetroots, but that it is chiefly formed from a substance of a complicated composition—lignine—by boiling.

EXTRACTION OF THE POISONOUS PRINCIPLE CONTAINED IN SOME LUPINES.*

It is a known fact that some of the lupines, for instance, *Phascolus*, are possessed of poisonous properties. Carl Arnold, of the Royal Veterinary School at Hanover, has separated a poisonous principle, contaminated with albumen, by macerating some of the lupines in question reduced to a fine powder with a 2 per cent. aqueous solution of caustic soda at a temperature of 40° C.—50° C., then leaving the mixture to stand at the ordinary temperature of a room for two days, pressing out the liquid, neutralising with acetic acid, concentrating at a temperature not above 60° C., adding carefully to this liquid, when cool, concentrated acetic acid till no further precipitate is formed, filtering, evaporating the filtrate to a syrupy consistency over the water-bath at a temperature not exceeding 60° C., and then mixing this with fifteen times its volume of 90 per cent. alcohol. The precipitate thus obtained is the poisonous principle, and when dried by pressing it between pieces of bibulous paper, it exhibits a brown lustrous resinous appearance, and has a pleasant aromatic smell and taste. It dissolves slowly in water, forming a cloudy liquid. Small doses produce in animals acute jaundice.

INTERNATIONAL ANALYTICAL STANDARDS.

PROFESSOR LUNGE, of Zurich, on behalf of the German Society of Chemical Industry, is sending a circular to English chemists with a view of bringing about a more general international agreement as to the methods of analysis to be pursued in estimating certain substances, as well as in the technical forms of expressing the results attained.

THE PERFUME OF FLOWERS.

In an article in the *Chemiker Zeitung*, March 22, 25, 29, and April 1, 1883, by Laurent Naudin, "On a New Method of Extracting Perfumes," allusion is made to Millon's remarks on what is at present known of the physical nature of the perfume of flowers, according to which Millon is quoted as saying:—"The very minute percentage of perfume present in odorous plants renders a study of the chemical nature of the substance evolving the odour very difficult, if not impossible. The average percentage yield is about 1 milligramme per kilo. of flowers operated on.

"The perfume-yielding substance of flowers is generally a solid, seldom a liquid body, which is not attacked by the air, and of which a single flower contains but imponderable traces. It is not decomposed by any temperature which does not exceed the highest temperature of the atmosphere.

"The diffusibility of the perfume of flowers in the air is almost unlimited, the odoriferous substance exhaling its odour far and wide without undergoing any perceptible loss of weight. It is almost equally diffusible in water, and a single drop of an alcoholic solution of a perfume poured into a comparatively large quantity of water imparts to the latter a powerful odour.

"The substance is further almost always volatile without

decomposition with such solvents as alcohol, ether, the fat oils, sulphide of carbon, chloroform, benzene, &c."

L. Naudin hopes that his new method of extraction will enable the odorous substances of flowers to be collected in sufficient quantity to ascertain their chemical nature.

DETECTION OF LEAD IN CITRIC ACID.

ALTHOUGH perfectly pure citric acid is purchasable, it is well known that as a rule the acid is more or less contaminated with lead from the lead vessels, the use of which cannot be avoided in the manufacture of the article.

Theodor Pusch, in the *Pharmaceutische Zeitung*, May 2, 1883, points out that the official test in the new German Pharmacopoeia, that of pouring sulphuretted hydrogen water over the crystalline acid, is by no means accurate, since the very acid solution thereby produced prevents any colouration, unless a considerable quantity of lead is present.

The best test for the presence of lead in citric acid, originally proposed by the German Pharmacopoeia Commission, consists in nearly neutralising with ammonia a 10 per cent. solution of the acid, and then mixing this liquid with two or three times its volume of sulphuretted hydrogen water. The presence of even minute quantities of lead at once produces a brownish colouration.

ON A CERTAIN TOPICAL PROPERTY OF GLYCERINE, AND ITS EMPLOYMENT IN THE PLACE OF OINTMENT OF MERCURY.*

SINCE glycerine is not absorbed by the skin, and in most cases prevents even the absorption of medicaments when mixed with them, P. Vigier recommends the employment of a mixture of 5 parts of corrosive sublimate and 100 parts of glycerine in lieu of ordinary ointment of mercury (British Pharmacopoeia).

Vigier further sums up by saying that, as a rule, when absorption of a medicament is required, some fatty substance should be used as the vehicle, and where an absorption is to be avoided glycerine should be employed.

NEW DRUGS.

MESSRS. GEHE & Co., in their April report, remark as under on the new drugs more or less in fashion:—

Cortex Quebracho Blanco.—This bark, from the Argentine Republic, is still in regular demand for asthma, but has not fulfilled the expectations entertained at the time of its appearance a few years ago.

Folia Boldo.—From Peru.—The leaves are employed not only as a remedy for diseases of the liver, but also for gonorrhoea, dyspepsia, and rheumatic affections.

Carica Papaya.—The inspissated juice of this tree is imported from Brazil, from which pure papayotin, or vegetable pepsine, is prepared, and is much in demand for diphtheria.

Grindelia Robusta.—From California.—The fluid extract is said to be used with success in America for diseases of the respiratory organs. It is also often employed here now.

Mudar Bark.—The bark of *Calotropis gigantea*. The natives of India use this as a remedy for epilepsy, paralysis, and the bites of poisonous animals. The powdered bark acts very similarly to ipecacuanha; it has been recommended for leprosy, dropsy, and intermittent fever.

Semen Simiba seu Cedronis.—The seeds of *Simiba cedron* (Planch), a tree belonging to the natural order Simarubaceae, and probably indigenous to New Canada. The inhabitants of South America carry these seeds about with them as an antidote for snake-bites. The seeds are bruised and immediately employed.

Cortex Copalehi.—The bark of *Croton pseudocheira*, Mexican fever bark, also called "quina blanca," is now again in frequent demand. It was formerly employed here as a febrifuge, and as a substitute for cascarrilla.

Semen Jquiriri.—The seeds of *Abrus precatorius*, belonging to the natural order Leguminosae. An aqueous extract of the seeds is used in ophthalmics.

* *Berichte der deutschen chemischen Gesellschaft*, March 12, 1883.

* *Pharmaceutische Centralhalle*, April 5, 1883.

Cannabis Tannate increases in reputation as an excellent and safe hypnotic, and, from its not causing any derangement of the bowels, is in most cases preferred to morphia and opium.

Chinothine.—The demand for this article is on the decline, possibly owing to its having been at one time offered in an impure state.

Suggestions.

To clean ivory, apply bicarbonate of soda with a tooth-brush dipped in warm water.

COCKROACHES may be destroyed by making red lead into a paste with flour and brown sugar, and spread on small pieces of card distributed at night about infested places.

BORIC ACID is hard to powder, but the work may be facilitated (says the *Pharmaceutische Post*) by first warming the mortar by burning some alcohol in it, then putting in the acid, and adding a very little glycerine.

A GOOD paste for labels, suitable for bottles, may be made by soaking glue in strong vinegar, then heat to boiling and add flour. This is very adhesive, and will not decompose when kept in wide-mouthed bottles.—*American Bottler*.

MR. WITTE, a homeopathic chemist, of Cleveland, in the *Hahnemannian Monthly*, tells how much more perfectly triturations can be made in unglazed porcelain mortars than in Wedgwood ones, on account of the superior hardness of the former. This can be tested on lycopodium.

TO DESTROY THE ODOUR OF PAINT.—Slice a few onions and put them in a pail of water in the centre of the room, to remain there for several hours; or plunge a handful of hay into a pailful of water, and let it stand in the room over night.

To preserve crystals of sulphate of iron, Gawalowski (*Zeit. Anal. Chem.*) says insert among them a test-tube half full of cotton-wool which has been soaked in an alkaline solution of pyrogallic acid, so that the mouth of the tube shall be just above the crystals. The bottle containing the crystals should be kept well corked.

M. ANCELIN finds that the quantity of useful heat is four times greater in acetate of soda than in water. Consequently the duration of the heat of a warming-pan containing acetate of soda is so much longer than one containing water. This is due to the enormous quantity of heat that must be applied to the acetate of soda in order to change it from the solid to the liquid state—a heat which is given off as it resumes the solid state.—*Dental Record*.

TO BLEACH SPONGES.—M. Vogel (*Mon. des Produits Chimiques*) advises to soak them in cold water for five or six days, changing the water five or six times a day and pressing the sponges at each change. Then, if necessary, soak them for twenty-four hours in a solution containing 5 per cent. of hydrochloric acid, in order to dissolve any calcareous carbonate which cannot be otherwise removed. After this, wash them in clean water, and then immerse them in sulphurous acid, specific gravity 1.024, repeating this process frequently for a week. Lastly wash them for twenty-four hours in a stream of fresh water, dip them in perfumed water, and let them dry. The finer the sponge the more easily it is bleached.

The following four suggestions are taken from the *Australian Medical Journal*:—

An ounce of sweet spirits of nitre will dissolve 20 grains of quinine sulph. This makes a combination very efficacious in counteracting the troublesome nausea of fevers.—*Dr. Kenner*.

Soule's Treatment of Sea-sickness.—Sodii bromidi 5 iv., ammonii bromidi 3 ij., aque menthe pipertæ 3 ij. A teaspoonful before meals and at bedtime. Begin the treatment three days before going on board. Soule has no failure to record.

Dr. Andrieu's ointment for soft chancres consists of one part of starch, one of pyrogallic acid, and three of vaseline.

For excessive sweating, bathe the body, a small surface at a time, with a sponge wet with the following lotion:—Alcohol O j., quinine sulph. 3 i.—*Dr. T. H. Currie*.

Medical Cleanings.

A NEW PROTECTIVE.—Dr. Malinin (*Médec. Obstr.*, quoted in the *Phila. Med. Reporter*), recommends mixing—collodium, 1 lb.; castor oil, 5j; almond oil, 5ss.; and carbolic oil, 5iij, to 5iv.; and spreading it over a glass plate smeared with glycerine. The fluid rapidly dries, forming a transparent thin, soft, and light sheet, which, when used, suffers no alteration from the contact with wound-discharges, and may be employed repeatedly (of course, each time after its washing in a carbolic solution).

TREATMENT OF WARTS.—M. Vidal employs the following procedure, especially when the lesion is placed on the hands:—Having spread a layer of black soap on a piece of flannel, he binds this kind of plaster over the part, so as to keep it *in situ* during the night, and, if possible, during the day also. After a few nights' repetition of such application the wart becomes softened or dissolved, and it now only requires to be scraped to secure its complete disappearance.—*Med. Times*, from *Jour. de Méd. Prat.*

ERGOT-POISONING.—It seems to result from recent researches by A. W. Pohl, brought before the Russian Chemical Society, that the poisonous action of the ergot, the bad effects of which are so often witnessed in Russia, is due to putrefaction poisons called ptomaines, which appear during the decomposition of the albuminoids in flour. The ergot, that is the sclerotium of the small mushroom, *Claviceps purpurea*, has energetic peptic qualities, and thus would directly contribute to the formation of ptomaines in the flour.

CITRATE OF CAFFEINE.—Dr. Routh reports in the *Lancet* that a patient of his, aged 63, who suffered from severe headache, chestache, and backache was ordered by him to take one drachm of citrate of caffeine three times a day, and a sleeping draught at night. "I meant Bishop's granular effervescent citrate," says Dr. Routh, "the only medicinal preparation in vogue. Unhappily, I did not specify this exactly, never doing so, and having always received this preparation when ordering it simply as citrate of caffeine. But unfortunately, also, the chemist who made it up supplied the ordinary citrate of caffeine pure and simple." [If Bishop's citrate is the only medicinal preparation in vogue, what is the ordinary citrate?] The patient took a drachm of citrate of caffeine at 4 P.M. Violent vomiting, purging, giddiness, and thirst followed, and when Dr. Routh reached his patient at 6 P.M. he was in a state of collapse, but retaining all his senses, and suffering no headache. After making him vomit by means of ipecacuanha wine, animal charcoal and stimulants were administered. The patient was several days before he recovered from this dangerous dose. Dr. Routh is entitled to great credit for his candour in narrating this instructive case, but he is unfair in apportioning as he does at the end of his article equal blame to the chemist who dispensed the medicine.

CHANGES IN THE ITALIAN TARIFF.—In the last Consular Reports published by the Foreign Office in March, 1883, is a report by Mr. Fraser on some changes effected at the end of last year in the Italian Customs Tariff. The only passages from this report which it is of interest for us to quote are the following:—It allows the salts of cinchona, "the cinchonina," and "cinconina," which are made from Peruvian bark of second quality and largely fabricated in Lombardy, principally for exportation, to receive the same facilities in regard to drawbacks of export duty with salts of quinine properly so called. Oxide of iron or lead, free; the duty had been 2*l.* per quintal. Chlorine of magnesia (cloruro) 1*l.* per quintal. Citrate of magnesia is added to the list of made-up medicines taxed in the general tariff at 120*l.* per quintal. Gums and resins of every kind (hitherto taxed at 3*l.* per quintal) are exempted from duty. Gambier (formerly taxed at 1*l.* per quintal), free. Indigo, cochineal, and kermes (formerly taxed at 7*l.* per quintal), free. Prussiate ("prussiate") of potash, yellow and red (hitherto taxed at 8*l.* per quintal), free. The quintal is equal to 220 4*l.* lbs. avoirdupois.

THEATRE GREASE-PAINT (Fatty Face-paint).—White—

	Parts
White wax	2
Oil olive (or sweet almonds)	3
Talc, powdered	1
Zinc oxide	½

R—

Chloride bismuth	5
White wax	2
Oil sweet almonds	5

For red, take the above basis and q.s. carmine. The most approved proportion seems to be 1 carmine to 40 base, and the best procedure would probably be—

	Parts
Carmine	1
Water of ammonia (q.s. till dissolved), say	4 to 8

Rub intimately with powdered talc (6 parts) till dry, then rub with basis—

	Parts
White wax	12½
Oil, olive or almond	20½

Stearns' New Idea.

SILVER-CLEANING SOAP.—Melt 400 parts of cocoanut oil and add gradually 200 of a 40° caustic soda lye. When the saponification is complete stir in 50 parts of English rouge, rubbed down, with ½ of spirit of ammonia.—*Rundschau für Pharm.*

MILK OF MAGNESIA.—According to some, this preparation is identical with the old French *Médecine blanche*, which was made by adding water very gradually to calcined magnesia, and heating the mixture to ebullition. Others say it can be made by precipitating with caustic soda a boiling solution of sulphate of magnesia, and washing the magma with warm water. Which is the right process we cannot tell. For aught we know, both may be right or both wrong.—*Druggists' Circular*.

DENTAL CEMENT (*Filler*).—R. F. Fairthorne gives the following excellent formula: 200 parts of oxide of zinc, 8 parts of silicic acid, 4 parts of borax, 5 parts of glass; reduced to a very fine powder. For immediate use add sufficient of a concentrated solution of chloride of zinc to a suitable consistence.—*Pharm. Record*.

TROCHISCI IODOFORMI.—Iodoformi, grammes, 5; sacchari, 100; ol. menth. pip., 0.15; tragacanth, 0.25; glycerini, 1; aque, q.s. Fiant trochisci 100. This is stated in the *Med. Chir. Centr. Bl.* to be the most convenient form for internal administration of iodoform.

VINUM CINCHONÆ.—

	Parts
Tinct. cinchonæ	100
Glycerini	100
Vini Xerensis	300

Mix, and let stand for three weeks, and filter.

Pharm. Germ. (Ed. II.)

VIN. CINCHONÆ FERRATUM.—

	Parts
Vini cinchonæ	200
Pyrophosph. ferri solub.	2
Acid citric	1
Aque	3

Med. Chir. Cent. Bl.

HONEY SOAP BY THE COLD PROCESS.—Saponify 30 lbs. of tallow with 15 lbs. of caustic ley of 36° B. at 38° C. Agitate, using a water-jacket to the boiler. Gradually bring in 3 lbs. of powdered light colophony and 3 lbs. of caustic ley at 28° B. Dye with any convenient yellow and perfume with 75 grains citron oil, 15 grains oil of peppermint, and 15 grains of rosmary oil. When casting do not cover the moulds more than necessary.—Ottermann, in *Seif. Zeit.*, per *Journ. Soc. Chem. Ind.*

TOILET VINEGAR (similar to Maillard's).—Acid. acet. dil., 1,000 parts; alcohol, 2,000; tinct. toluat., 40; tinct. benzoës, 15; ol. bergamot, 15; ol. limonis, 15; ol. lavand., 15; ol. rorismar., 5; tinct. moschi, 5; rad. rhatanie, 4. Mix, macerate 14 days, and filter.

GLYCERINE SOAP.—The following recipe for a transparent soap is given by Kürten in the *Seif. Zeit.*—

	Lbs.
Tallow	63
Palmnut or cocoanut oil	48½
Leys at 39° B.	57
Alcohol (90 per cent.)	49½
Glycerine	69½

The oils are heated to 70° C., the leys are then slowly stirred in, and lastly the glycerine and spirit. On heating now to 80° complete combination takes place. The mass is performed and run into moulds, which allow of the most rapid cooling possible.—*Journ. Soc. Chem. Ind.*

CREAM MEAD.—A very agreeable drink may be prepared for convalescents as follows:—Dissolve 3 lbs. of white sugar in 4 gallon of boiling water, and while cold add 3 oz. of tartaric acid previously dissolved in a pint of cold water. Now add the whites of three eggs well beaten, flavour to taste, and bottle. When it is to be used stir in a few grains of bicarbonate of soda, and a delicious effervescing drink is the result.—*Medical Bulletin*.

ANISEED CORDIAL.—The following is an excellent formula:—Macerate for twenty-four hours in a mixture of alcohol 3ij., water 3ij., 3j. of aniseed, and then add 3ij. of simple syrup.—*Medical Bulletin*.

REYNOLDS'S SPECIFIC.—

Sherry wine	1 pint
Colchicum bulbs	½ lb.
Jamaica rum	1 oz.

Poppy flowers sufficient to colour.

St. Louis Druggist.

LEATHER POLISH.—A German journal gives the following leather polish:—Mix 200 parts of shellac with 1,000 of spirit—95 per cent.—in a well-stoppered bottle. Keep in a warm place for two or three days, shaking frequently. Separately dissolve 25 parts of Marselles soap in 375 of warmed spirit—25 per cent.—and to the solution add 40 of glycerine. Shake well and mix with the shellac solution. To the mixture add 5 parts of nigrosin dissolved in 125 of spirit. Well close the vessel and shake energetically, and then leave the mixture in a warm place for a fortnight.

INCOMBUSTIBLE PAINT.—MM. Vildé and Schambeck propose the following mixture for rendering wood-work incombustible:—Pulverised glass, 20; pulverised porcelain, 20; pulverised stone, 20; calcined lime, 10; silicate of soda, 30; total, 100. The solid elements must be reduced to fine powder, and then mixed intimately with the soluble glass, thus forming a glutinous mass which may be employed, as it is, for painting, or may be mixed with various colours. The addition of the lime gives a certain unctuousity to the mass for painting, while the combining of this lime with a portion of the silicic acid of the soluble glass promotes the ultimate mixture of the other substances. The paint is laid on with a brush in the ordinary manner, and as evenly as possible on the surface to be protected. The first coat sets immediately, and the second may be applied from six to twelve hours afterwards, two coats being sufficient. This composition may also be employed with advantage for protecting iron bridges, sleepers, &c., from oxidation.—*Journ. Soc. Arts*.

A PROCESS FOR SILVERING GLASS has, we hear, been devised by Professor Palmieri. It is by means of the reducing action of glycerine on the salts of silver, and the system has the advantage of producing a very brilliant metallic deposit. When into an ammoniacal solution of nitrate of silver is poured, first a little caustic potash, and then a few drops of glycerine, the reduction begins at once; and this action is accelerated if either or alcohol be added to the mixture. A moderate heat and darkness are said to increase the brilliancy of the precipitate, and darkness also favours the adhesion to the mirror of the deposit.



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FLETCHER, FLETCHER & STEVENSON, Holloway, London, N.**HAY'S SOLUBLE ESSENCE OF GINGER.** See page 60.**HAY'S GINGER CHAMPAGNE.** See page 58.**HAY'S SOLUBLE ESSENCE OF LEMON.** See page 58.**EDITORIAL NOTES.****THE ANNUAL REPORTS.**

THE report of the Pharmaceutical Council, to be submitted to the annual meeting of the Society, on Wednesday, the 23rd inst., shows the usual prosperity. Nearly 1,300 have been added to the accumulated funds of the Society, which now amount to over 25,000. Some portion of this is to be invested in freehold ground rents. Such, at least, is the intention of the Council, and it is mentioned in the report with a view, perhaps, of inviting opinion. The special feature of

the balance-sheet is the considerably improved financial position of the *Pharmaceutical Journal*, which shows a profit of 417*l.*, after all expenses of production have been deducted. Last year the favourable balance was only 99*l.* The gross receipts of the Society from the subscriptions of members, associates, and apprentices have declined from 4,743*l.* last year to 4,715*l.* this year. Satisfactory reports are given of the library, museum, and evening meetings, and mention is made that 155 cases of alleged infringements of the Pharmacy Act came before the Council during the year. In most cases, when legal proceedings were taken, penalties were paid before the hearings. The income from this source amounted to 86*l.* 8*s.* 8*d.*

References to the Pharmacy Bill, to the curriculum proposals, the Benevolent Fund, the intention of electing corresponding members, and the obituary of the year, are the other items of the report. With regard to the Benevolent Fund, we note that annuities of 30*l.* to 35*l.* are being paid to 36 persons, and that 441*l.* was distributed in the year in casual grants. Notwithstanding, or we should rather say in consequence of, the greatly increased liberality which now characterises the management of this fund, the subscriptions keep up well with the demand, and, as usual, the accumulated fund has been increased.

The report of the Chemists and Druggists' Trade Association again offers no material for sensational interest, unless such sensation be found in the gradual but steady progress of the Association towards a financial collapse. The expenses are nothing more than normal, but the net assets of the Association are shown in the balance-sheet to have fallen from 413*l.* 17*s.* 2*d.* to 259*l.* 7*s.* 5*d.* The members who actually paid their subscriptions during the past year numbered 2,743, and these gave an income of 685*l.* 15*s.*; the donations amounted to 63*l.* 4*s.* 6*d.* A body of 3,000 men united in one aim, and likely enough to recruit themselves to double that number in case of any pressing need, is no mean force; but it certainly seems hard that so many should get the practical benefit of this union without contributing towards its maintenance.

The details of the report show that two threatened actions which the Executive Committee had resolved to defend have not been prosecuted. One of these actions involved the right to use the words "Liver Mixture," and the other was for damages for unskillfully treating a child's cut finger. The committee have a right to claim that their action in the past has prevented many actions being instituted, and this is markedly the case in regard to the Sale of Foods Act. Only two cases have been submitted to the committee, and neither seemed a proper one to defend.

The prosecutions by the Association under the Pharmacy Act and the general proceedings of the committee have been reported by us from month to month; they are again stated in abstract in the report.

The annual meeting of the Association is to be held at 12 for 12.30 P.M., on Tuesday next, May 22, in the Banqueting Room of the Inns of Court Hotel, Lincoln's Inn Fields.

CORONERS ON THE SALE OF POISONS.

SEVENTY-FOUR replies have been received from various coroners of England and Wales in answer to the circular we addressed to them, a copy of which we printed last month.

Two of the questions we asked were—First, "If they considered that the sale of carbolic acid ought to be confined to chemists and druggists, and subject to the regulations of the Pharmacy Act?" and, second, "Do you approve of the proposal to authorise traders other than chemists and druggists to deal in articles legally recognised as poisonous?"

Fifty-four coroners are in favour of confining to chemists the sale of carbolic acid, and object to the proposal to allow others than chemists and druggists to deal in poisonous articles. These are the coroners for:—

Middlesex	Berwick-on-Tweed
Wantage	Town and County of Poole
Hants	Borough of Oswestry
Kent	Mayor of Hiale
Borough of Appleby	Borough of Guildford
Hemel Hempstead	City of Rochester
Cheshire (Knutsford Division)	Breconshire
Henley-on-Thames	Bury St. Edmunds
Lordship of Milford	Borough of Malvern
Pembroke	Liberty of Hawkingate-Bower
Leicestershire (Northern District)	Yorkshire and Honour of Pontefract
Borough of Ludlow	Oxfordshire
Seaford	Wimborne and Blandford (Dorset)
Rape of Hastings	Lincoln
Dorset	Sandwich
Hants (County of)	Leeds
Devonshire (Stoke Damerel District)	Borough of Helston
Cardiganshire	Mayor of Chepstow
Gloucestershire (Lower Division)	Salop
Northamptonshire (Eastern Div.)	Devon
Stockton Ward (Stockton-on-Tees)	Fordingbridge
Wiltshire	Worcestershire
South Northumberland	Gloucestershire (Stroud)
Bolton	Darlington Ward (Durham County)
Honour of Pontefract	Buckingham, and Northern Division
County of Stock	of Bucks
— (T. Stoop, J., Esq.)	Devonshire
Norwich	

The coroners for the Borough of Lydd, Kent, Tenterden, the Borough of Bridgnorth, and the Hundred of Clachlore (?) consider that it is advisable to allow others than chemists and druggists to sell poisonous articles, including carbolic acid. The Coroner for Tenterden, however, qualifies his opinion by stating that a register ought to be kept, and the traders to be qualified.

The Coroner for the Hundred of Nassaburgh (?) considers that the sale of carbolic acid ought to be confined to chemists, but expresses no opinion on the other point.

The Coroner for Portland, his brother of Cardiganshire, and Dr. Diplock, of West Middlesex, consider that the sale of carbolic acid should not be confined to chemists, and would not allow other tradesmen to deal in poisonous articles. It is possible that this somewhat illogical position is taken up by inadvertence. Dr. Diplock says he would not approve of the proposal to allow traders other than chemists and druggists to deal in articles legally recognised as poisonous, *if other traders are subject to the same regulations*. We feel sure that the proviso indicates that Dr. Diplock would not *dis*-approve of the proposal.

Four would confine the sale of poisonous articles to chemists, without expressing an opinion on carbolic acid.

Eight coroners remain to be accounted for. One has no experience; another has no remarks to make; three propose various restrictions on the sale of poisons, which will be mentioned elsewhere; a sixth would make the buyer responsible for the care of poison; the next considers the poison label sufficient protection; while the last, of a scholastic turn of mind, questions the power of Parliament to declare anything poisonous which is freely given in medical practice.

A parliament of coroners would, therefore, be far more favourable to the pharmacists' monopoly than the Bill promoted by the Pharmaceutical Council. Out of seventy-four no less than fifty-four would vote for the restriction of the sale of poisonous articles, including carbolic acid, to chemists only. Three only would positively oppose it, and they might be open to conviction. Two would abstain from voting; three are theoretically inclined towards it, as they think the sale of poisons should be very much restricted; four would confine the sale of poisons generally to chemists and druggists; three would not allow traders other than chemists to deal in any poisonous articles except carbolic acid; while two can hardly be classified. The opposition, it will be seen, is not only insignificant, but is thoroughly disorganised.

ADDITIONS TO THE POISONS SCHEDULES.

The replies that have been received under this heading are the more interesting that our question suggested nothing. We did not "lead" in the slightest degree.

The three mineral acids should be added to the poison schedule in the opinions of the coroners for

Tenterden
South Northumberland
County of Salop
Liberty of Havering-atte-Bower
making eight in all.

Eastern Northamptonshire
Bolton
Norwich (perhaps)
Borough of Leeds

Five suggest the addition of patent medicines, namely, the coroners for

Hants
Rochester City
Norwich

Seaford
Devon

The Coroner for Yorkshire writes:—"I consider the danger arising from the sale of patent medicines is increased by puffing pamphlets and advertisements;" in other words, by all attempts to increase their sale.

The Coroner for the county of Salop would add especially the chloride of antimony; the Coroner for Dorset would include all antimonial preparations.

The Coroner for the Cardigan district would have the sale of poisonous disinfectants regulated; the Coroner for the borough of Guildford thinks that carbolic acid should be sold to the public only in the form of powder.

The addition of phosphorus is proposed by the coroners for Tenterden, Rochdale, Wimborne, and Blandford.

The Coroner for Tenterden suggests the addition of sheep-dip; Dr. Grace, of Lower Gloucestershire, would add children's soothing syrup; croton oil would be added by the coroner for Cardiganshire; and nitro-benzole is poisonous in ounce doses we are told by the Coroner for the borough of Guildford.

In addition to these a number of interesting suggestions are made, which we give below, as far as possible, in the writers' own words.

The Coroner for Tenterden (Kent) "would have all poisons not used either destroyed or returned to the traders: for a farmer and child near here lost their lives through taking sheep-dipping powders for brimstone. He would allow respectable traders to deal in poisons if a proper register is kept."

The Coroner for Lancashire thinks "phosphorus preparations should be added to the poison schedule, because no trace of this poison can be found after death." Also that "many persons commit suicide with vermin killers, which ought not to be sold except under the regulations of the Pharmacy Act."

The Coroner for Kent writes:—"I think precautions ought to be taken with regard to the sale of carbolic acid, for two or three cases have recently come under my notice of deaths arising from having taken a quantity of this acid. So far as could be discovered the deaths were the result of suicide, and I take it that the unrestricted and haphazard sale of such a dangerous, although useful, acid is a great temptation to persons contemplating taking their own lives. . . . I am afraid that the sale of poisons even by chemists is not done in such a careful way as it should be; still I think it is not likely that an ordinary trader would use more, if so much, caution, as a duly-qualified chemist in the sale of such articles. . . . I think it would be well if some of the articles enumerated in Part II. of the Poisons Schedule, such as essential oil of almonds, opium, and oxalic acid, could possibly be sold in a more careful manner. I have frequently had to inquire into deaths arising from one or other of these poisons (especially opium), and it has struck me that the easy mode of obtaining them is a direct encouragement to buy such articles. Whilst inquiring into a recent case of suicide, a chemist's assistant actually stated that they would have no hesitation in supplying even a pint of opium to a purchaser, provided he was known to the person selling; and in that case it was indeed a most superficial knowledge.

The Coroner for the Cardigan district says he does not approve of the proposal to allow traders other than chemists and druggists to deal in articles legally recognised as poisonous, but adds:—"I scarcely know why there should be any objection, provided such traders were competent enough to know the properties of such poisons."

The Coroner for Ipswich sends us the subjoined interesting and suggestive letter:—

20 Upper Brook Street, Ipswich, April 11.

SALE OF POISONS.

Sir,—I beg to acknowledge the receipt of your circular with reference to this subject.

It seems to me that the Pharmacy Act is at present evaded for two reasons. First, because it requires articles, which are frequently and properly used as medicine, to be labelled with the word "Poison;" and, secondly, because it is the business and interest of no one to see that the Act is carried out.

I do not think that the Act would be amended by any addition to either schedule to the Act. I would suggest instead, that, while the great majority of poisons should be labelled and dealt with as they are now, and sold only by chemists and druggists, substances frequently used as medicines, which may become, and often are, poisons, such, for instance, as preparations of morphia, opium and chloroform, should be taken out of the schedule of the Pharmacy Act, and that instead of their being labelled "Poison," they should be labelled, "This preparation contains opium, or morphia, or chloroform, &c.," and that all such persons should have power to sell them (as also vermin-killers), and such persons only, as should take out a licence to that effect. Every person so licensed should keep a "Poisons-book," in which an entry should be made of the date of sale of each article, the name and address of the purchaser, the name and quantity sold, and the purpose for which it is wanted.

Carbolic acid and sulphuric acid should, I think, be dealt with in the same way. The effect of this would be to do away with the objection that are now made to the Act, which are: First, that a medicine has to be labelled "Poison," and persons are consequently frightened from using them (the result being, not that the articles are not sold, but that the Act is constantly infringed); and, secondly, that great inconvenience arises in country districts from the fact that certain articles of frequent use can only be obtained from chemists and druggists, the result being that these articles are surreptitiously sold by other persons. It would also have the effect of limiting the sale of these articles to the persons properly authorised for such sale, as there would be people then, namely, collectors of the licence duties, whose province it would be to see that none but persons so licensed should sell the articles in question.

I think that if the plan I propose were adopted, crime would be much easier of detection than it is now.

Dr. E. M. Grace, Coroner for the Lower Division of Gloucestershire, remarks that "Nothing containing opium for children should be allowed to be sold at all to the public."

The Coroner for Wilts says:—"At present there is no difficulty in procuring poisons from druggists and others, especially in cheap medicines."

The Coroner for South Northumberland says:—"More stringent measures should be adopted in the sale of vermin killers, no fewer than five cases of poisoning by Bartle's vermin killer having occurred in a small town in my district within the last ten years, proving fatal. I believe, however, they were all wilful."

The Coroner for Portland would add to the Poison Schedule: "Every poisonous substance small quantities of which may take away human life."

The Coroner for Bolton writes:—"I am perfectly satisfied that carbolic acid should be confined to druggists and subject to the regulations of the Pharmacy Acts. I have had two inquests within the last year or two from poisoning by carbolic acid, which might have been prevented if it had been more difficult to obtain the poison."

The Coroner for Pembroke says:—"I would restrict the sale of poisons as much as possible. I was not aware that carbolic acid was sold by any excepting chemists and druggists. I consider that some druggists are very careless as to selling poisons. I was in a druggist's shop when a lad came and asked for strychnine, producing a letter. He was given enough to kill a whole parish; it was for killing vermin. Where such a case as this happens it would be for the public safety if the druggist informed the police that so-and-so had so much poison."

The Coroner for Northamptonshire says:—"I am glad to say I have not had any cases of poisoning to deal with, but my private opinion is that any measure which will limit the number of dealers in poisonous substances, and also ensure the purchasers and the public having notice of the danger of the articles, will be of advantage."

The Coroner for Seaford would add to the Poison Schedule, "patent and other medicines which contain chloral and other poisons in dangerous doses."

The Coroner for Norwich thinks it most desirable, most

important of all, that patent medicines containing poisons shall be subject to the regulations named in the Pharmacy Act, 1868.

The Coroner for Hertfordshire says:—"It is within my knowledge that poisons are now too easily procured for malicious poisoning of domesticated animals."

The Coroner for Wolverhampton considers that the restrictions on the sale of poisons cannot be too stringent.

The Coroner for Dorset writes:—"Only last week an inquest was held by me where a person had committed suicide by taking Battle's vermin killer. He had been unable to obtain it himself, the chemist refusing to sell it him; but he obtained it through the carrier from his village, who stated in his evidence that he very frequently obtained it for numerous people, sometimes signing the book, sometimes not. This, in my opinion, should be prevented."

The Coroner for the Manor of Hales would restrict the sale of carbolic acid to chemists, except where it is required in large quantities for manufacturing purposes. Some precautions should be taken to prevent the workmen in manufactories where poisons are used taking portions away with them. "I have recently had a valuable yard-dog poisoned with poison obtained in that way—at least, so I believe."

The Coroner for Warwickshire writes:—"I think no poison should be sold to any person, unless in the presence of a credible witness able to certify to the vendor the purpose for which it is wanted."

The Coroner for the City of Rochester says:—"Patent medicines containing laudanum and other poisons ought not to be sold by quacks or traders other than chemists and druggists."

The Coroner for Breconshire, in answer to the question whether traders other than chemists should be allowed to deal in poisonous articles, says:—"Certainly not; the higher the *status* the greater the protection. . . . In selling poisons the person applied to should call his principal, and narrowly watch the effect on the customer."

The Coroner for the Liberty of Bury St. Edmunds says:—"I think dealers in poisonous articles should be specially qualified, and known to the public as such."

The Coroner for the Borough of Abingdon writes:—"I think it would be very desirable that *no poison* should be obtainable except through a chemist and druggist."

The Coroner for the Liberty of Havering-atte-Bower considers that the sale of carbolic acid ought to be confined to chemists and druggists, "and also that the sale of sulphuric, nitric, and hydrochloric acids should be so limited; also in certain industrial centres to persons specially licensed for the purpose, other than chemists and druggists. . . . I would make the neglect of regulations as to sale highly penal, as in the case of explosives, &c."

Dr. Diplock, Coroner for West Middlesex, suggests "that the word 'poison' on each packet or bottle should stand alone and distinct, not forming part of a sentence."

The Coroner for the Hundred of Christchurch writes:—"It is a pity to impose on trade restrictions which are either unnecessary or inefficient, but I think that whatever vessel or parcel poison is kept in should be plainly marked 'poison,' and should be kept under lock and key, and that not only the seller should be subject to restrictions, but the purchaser should be liable to punishment who keeps deadly poison or loaded firearms in a careless manner. I have recently had a case of poisoning where salad oil, sp. ammon. arom. [prussic acid?], and laudanum were kept together, and it is supposed that the deceased took the p. acid by mistake for sp. am. At the same time the impossibility must be admitted of guarding against all poisons. Almost every garden and every hedge supplies them in abundance. Make the *buyer* answerable for the care of the poison."

The Coroner for Oxford writes in a critical and extremely logical strain:—"Sir,—It is hardly to be expected that Parliament will restrict the sale of articles of merchandise, such as sulphuric, nitric, hydrochloric, and carbolic acid. I do not see what right Parliament has to declare any article 'poisonous' which is freely given in medical practice. No doubt the attempt made to stop the sale of such things has failed. If further attempts are made they might be extended to cards of all kinds, edge-tools, gunpowder, firearms, quicklime, and all articles liable to be supplied to an unlawful or a dangerous purpose. If it is true that any

'persons keep open shops for the retailing, dispensing, or compounding of poisons' I think it would be well that means should be provided to punish them, if not to stop them from such wickedness."

The Coroner for the Hundred of Hurstingstone, in the county of Huntingdon, says:—"I have not held many inquests as to deaths by poison, and I do not remember any in which the cause was from the poison being bought from a person not a chemist. The inquests have mostly been on deaths caused by taking by mistake poison instead of medicine, from the wrong bottle, or using a little too much laudanum medicine. I think all poisons should be distinctly labelled as such, and that this is sufficient protection to careful people, and that no legislation will prevent accidents happening to careless people."

The Coroner for the Hundred of Clachelore [?] would not confine the sale of carbolic acid to chemists and druggists, "because it is of such general use in sanitary districts."

The Coroner for Devon says:—"No case of poisoning by carbolic acid has come under my notice officially, but I certainly think it is a poison which should be subject to the regulations of the Pharmacy Act. I think the proposal to authorise other traders than chemists and druggists is very unwise, the public safety requiring, in my opinion, further restrictions rather than further liberty in the sale of poisons."

The Coroner for the county of Worcester says:—"I am of opinion that all poisonous substances should only be sold by chemists."

The Coroner for Sandwich considers the sale of carbolic acid should be confined to chemists and druggists, because they are now located in all towns and large villages; also, that the sale of poisons should be restricted to chemists and druggists.

The Coroner for Bedfordshire says:—"As much restriction as possible ought to be enforced, especially upon alcoholic drinks."

It will be seen that while some of these suggestions are impracticable and others show incomplete acquaintance with the existing law, many of them are very worthy of consideration. We may, perhaps, return to the question next month.

THE MEDICAL ACTS AMENDMENT BILL.

SOME alarm was created among chemists by the report published of the passage through Committee in the House of Lords of the Medical Acts Amendment Bill. This was what was reported:—

On Clause 28 Lord Carlingford moved an amendment providing that anyone who practised for gain or professed to practise, or published his name as practising medicine or surgery, or received any payment for practising medicine or surgery, should be liable to a penalty of 20*l*. Lord Mount-Temple opposed the amendment as being too stringent, but Lord Carlingford said it was really in the nature of a relaxation, and it was thereupon carried.

That was the report given by the *Lancet*. Turning to the *British Medical Journal*, we found a similar report, and an editorial reference to the amendment to the effect that it was the result of strong representations made to the Government by the Medical Reform Committee. The amendment, as thus framed, would have made nonsense of the whole Bill, as it would have rendered *anyone*, registered or not, doctor as well as chemist, liable to the 20*l*. penalty if he should practise for gain. When the Bill was reprinted it appeared that Lord Carlingford had merely corrected some vagueness in the Bill as originally drafted. We give below the exact wording of the clause, showing the addition in brackets:—

On and after the aforesaid day, if any person, whether a registered medical practitioner or not [who practises for gain or professes to practise, or publishes his name as practising medicine or surgery, or receives any payment for practising medicine or surgery], takes or uses a medical

title, which is by this Act not permitted to be entered on the register, he shall, on summary conviction, be liable to a penalty not exceeding 20*l*.

The same clause provides a similar penalty for the unauthorised assumption of any medical title, but it clearly recognises throughout that unregistered persons may practise medicine for gain. The clause we have quoted seems to be directed against such people as the gentleman who called himself M.B., meaning medical botanist, or the American L.L.D. who used his doctorship to promote his medical reputation. Without qualifying words, it is possible that any L.L.D. would be liable to the penalty if he were called Doctor.

The Apothecaries' Society have, it seems to us, good reason to complain of the action of the House of Lords in disfranchising them at the last stage of the Medical Bill in its passage through the House. The Bill had passed through Committee, and came on for third reading in the usual formal manner. Lord Salisbury thereupon moved that the number of members on the new Medical Board be reduced from seventeen to sixteen by removing the Society of Apothecaries from the board. Lord Camperdown, who was a member of the Royal Commission on the medical laws, supported the amendment. No one was present to speak a kind word for the Society, and Lord Carlisle said he was not in a position to present their case; he would, therefore, accept the amendment. Of course, an attempt will be made in the House of Commons to regain the representative, and it is said that the Apothecaries' Society were preparing to urge a claim for a larger share of representation than had been accorded them. They have supplied the country for many years with a large proportion of the most useful class of general medical practitioners, while it would be a puzzle equal to the traditional search for the needle in the bundle of hay to find the sufferers who have been relieved by practitioners from Oxford University, whence Lord Salisbury derives his mandate to speak on this question with any representative authority; and we much doubt whether the House of Commons will endorse this ungenerous academic exclusiveness.

The Bill in the House of Commons is in the charge of Mr. Mundella, Vice-President of the Privy Council, and was read a first time on May 2. The second reading will not be taken until after the Whitsuntide vacation. Meanwhile it has been "blocked" by Mr. Biggar, which will prevent its coming on after half-past twelve at night.

PREPARING A NEW BRITISH PHARMACOPEIA.

THE General Medical Council have been in session in London during the past month, and among their business was the reception of a report from their Pharmacopœia Committee, which ran as follows:—

"The Pharmacopœia Committee appointed, at their first meeting, on July 8, 1882, a sub-committee, with power to take such steps as they thought necessary towards preparing a new edition of the Pharmacopœia, and to submit a report to a future meeting of the general committee. The sub-committee have reported that they held two meetings since their appointment, and that they have communicated with Professors Redwood, Bentley, and Attfield as to undertaking the duty of preparing a new edition of the Pharmacopœia under the direction of the committee. These gentlemen have submitted to the Pharmacopœia Committee a report, which, with certain modifications recommended by the sub-committee, has been approved of, and, as so amended, is appended hereto. The committee have arranged that the remuneration to Messrs. Redwood, Bentley, and Attfield is to be 800*l*, this sum to include the cost of any experiments requiring to be made, also the correction of the press and the preparation of an index, the work being

carried through the press to the satisfaction of the committee and the Medical Council. The committee, in conclusion, beg to state that it is their intention to apply to the several medical authorities, to the Pharmaceutical and Chemical Societies, and to such persons as may be likely to furnish useful information, with a view of making the work as complete and perfect as possible.

"RICHARD QUAIN, M.D., Chairman."

The other members of the Pharmacopœia Committee of the Medical Council are Dr. Aquilla Smith, Dr. Pitman, Mr. Macnamara, Mr. Bradford, Mr. Collins, and Dr. Haldane.

The proposals made by Professors Redwood, Bentley, and Attfield in the report alluded to above are naturally of considerable interest to pharmacists as well as to medical men. The object of the Medical Council must be to obtain as thoroughly satisfactory a work as can be compiled, and the present is therefore the time for suggestions made with a view to promote that object. The preliminary report now put forward, which we print in full on another page, is by no means exhaustive, and, as intimated by the writers, does not touch the important subject of processes at all; it is, however, as far as it goes, quite satisfactory.

First, it is intended to slightly alter the nomenclature of chemical salts in accordance with the plan proposed some years ago by Professor Attfield, and adopted in the recent United States Pharmacopœia, so as to harmonise the names of salts with each other and with the later results of chemical investigation. That is, instead of *potassæ sulphas*, *ammonie nitras*, and so on, we shall in future say *potassii sulphas* and *ammonii nitras*, just as we say *ferri sulphas*, *cupri sulphas*, and so on, while in English we shall say sulphate of potassium instead of sulphate of potash, and not potassic sulphate, which would be more strictly in accordance with scientific system. It is intended to follow the new notation exclusively. In regard to the touchy question of the best method of stating proportions in formulae the Professors have evidently done their best to please everybody. There are reasons for retaining in its ugly simplicity our present unorganised system of weights and measures; there are reasons for abandoning this for the mathematically pretty metric system; but there is no sort of sense or reason in throwing up both of these and adopting, as the Americans in a moment of weakness have done, the German plan of parts by weight entirely. It is certainly desirable that the British Pharmacopœia should be comprehensible and clear to foreigners as well as to Englishmen; but it would be a pity to inconvenience all English medical and pharmaceutical practitioners to attain that result. The method now suggested is to print the formulae with the weights and measures as now used, and alongside to give the proportional parts, so expressed, however, that fluids shall be "parts by measure" and solids only "parts by weight." This will meet the requirements of those to whom *avoirduois* weights and imperial measures are not familiar as household words, and cannot inconvenience anybody. Similarly, it is thought desirable to express temperatures according to both the Fahrenheit and Centigrade scales.

The revision of processes, the perfection of tests, and the more accurate descriptions of vegetable drugs will, of course, require a great deal of work and attention. The omissions of and additions to the substances and preparations of the Pharmacopœia which these gentlemen at present think necessary are not so numerous as might have been expected. The subject will no doubt receive much attention in our journals during the next few months, and it is to be hoped that the united wisdom of British pharmacists will yield a Pharmacopœia in no respect inferior to those of other nations where pharmacy has the reputation of being on a higher level.

AUSTRALIAN PHARMACEUTICAL CONFERENCE.

THE suggestion has been made by the Pharmaceutical Society of Victoria, and received very cordially by leading pharmacists in the other Australasian colonies, that Conference of representatives of the various pharmaceutical societies of the southern hemisphere be held at Sydney during this year, with a view of providing for reciprocal intercolonial registration, based on a mutually uniform system of education and examination. We do not pretend to be able to estimate fully the position occupied by our Australasian fellow-pharmacists, and of course we shall not presume to offer them any advice. But we clearly perceive that this Conference at Sydney, if held, as we hope it will be, will be an important epoch for Australian pharmacy. The Pharmaceutical Societies of Victoria, New South Wales, New Zealand, and Queensland are bodies which are dealing with a great future; the correspondence which we publish from those colonies, and which, we think, has helped to rouse a general interest in them, has shown clearly how earnestly and how ably the founders of these societies are working to establish in Australia conditions for pharmacy which shall make it honourable for those who practise it, and as useful as possible to the community generally. These men have a great opportunity; their countries are not so crowded that every privilege is watched with fierce jealousy; they have no ruts to get out of; they have all the world's experience to draw on; and they have wealth, and ability, and public spirit among themselves. Their meeting at Sydney will no doubt be the first of many intercolonial conferences, and it can hardly fail to encourage those who do work now, and infuse some energy into those who are as yet apathetic. British pharmacists will certainly follow the proceedings with interest, and as this journal is now almost as much an Australasian as an English publication, we shall have pleasure in reporting the transactions as we have reported the preliminaries of this Conference.

THE EXPLOSIVE SUBSTANCES ACT, 1883.

WE hear many complaints of the slow progress of business in the House of Commons, but this Act of Parliament shows that both branches of the Legislature can bestir themselves occasionally. Within nineteen hours after the introduction of the Bill it had passed through all its stages, received the Royal assent, and become established law.

Elsewhere we print the Home Office circular, in which (*inter alia*) cautions are addressed to chemists and others as to the sale to unknown individuals of materials capable of being used for explosive purposes. It may be useful to supplement this by an epitome of the principal provisions of the Act itself.

The operation of the Act is not confined to explosive substances properly so called, but extends to any materials for making any explosive substance; also to any apparatus, machine, implement, or materials used, or intended to be used, or adapted for causing or aiding in causing, any explosion, and any part of any such apparatus, machine, or implement; all of which are included in the definition of the expression "explosive substance."

The first offence created by the Act is punishable with penal servitude for life or for any less term (not being less than the minimum term allowed by law), or with imprisonment, with or without hard labour, for a term not exceeding two years. The offence is that of unlawfully and maliciously

causing by any explosive substance an explosion of a nature likely to endanger life or to cause serious injury to property, whether any injury to person or property be actually caused or not. It will be perceived that the definition comprises abortive attempts at destruction, if a jury can be satisfied that the explosion was wilfully caused and was likely to cause the injury specified in the Act.

The next section comprises two offences, for which the maximum punishment is penal servitude for twenty years. It applies to all persons within the United Kingdom, whatever their nationality, and also to British subjects wherever they may be. The offences referred to are:—(1) Doing any act with intent to cause by an explosive substance, or conspiring to cause by an explosive substance, an explosion in the United Kingdom of a nature likely to endanger life or to cause serious injury to property. (2) Making, or having in his possession or under his control, any explosive substance with intent, by means thereof, to endanger life or to cause serious injury to property in the United Kingdom, or to enable any other person by means thereof to endanger life or cause serious injury to property in the United Kingdom. We give the full statutory description of these offences because of their importance. In both cases what is done must be done unlawfully and maliciously, and in both cases the offence will be complete although no explosion takes place, and no injury to person or property is caused. "Unlawfully," in this connection, explains itself; "maliciously" may be taken as almost equivalent to wilfully. Whenever any person wilfully attempts to injure the person or property of another, the law will imply malice. If he had no malice or illwill towards his intended victim he would not attempt to injure him.

The next section introduces a new departure, at variance with the established legal principle that persons are presumed to be innocent until they are proved guilty. The clause enacts that any person who makes, or knowingly has in his possession or under his control, any explosive substance, under such circumstances as to give rise to a reasonable suspicion that he is not making it, or does not have it in his possession or under his control, for a lawful object, shall, unless he can show that he made it, or had it in his possession or under his control, for a lawful object, be guilty of felony, and on conviction shall be liable to penal servitude for a term not exceeding fourteen years, or to imprisonment with or without hard labour for a term not exceeding two years, and the explosive substance shall be forfeited. The effect of this enactment is that if the suspicious circumstances are established the onus of proof is shifted from the prosecution to the accused person, and to enable him to meet this new state of the law any such person and his wife (if he be a married man), or her husband (if the accused be a married woman) may be called, sworn, examined, and cross-examined as an ordinary witness in the case, but only at their own option. The prosecution will not be able to call them as witnesses; and though it might sometimes be imprudent for them to tender evidence, it is likely that if any such persons were to refuse to be sworn their refusal might unfavourably influence the jury, though this would be of no importance if they could prove their innocence by independent testimony.

In order to go to the root of the matter, accessories before the fact are made liable to be tried and punished in the same manner as principals. This applies to all persons within the United Kingdom and British subjects abroad; and the overt acts include the supply of or solicitation for, money, the providing of premises, the supply of materials and in any manner whatever procuring, counselling, aiding

or abetting the commission of any crime under the Act. It is under this section that chemists may be troubled.

Prosecutions and other proceedings under the Act are only to be taken with the consent of the Attorney-General, although an accused person may be remanded in custody by justices until the necessary consent can be obtained.

The supply of materials which might be used for the purpose of committing offences under the Act will require the exercise of vigilance by chemists, lest they should inadvertently expose themselves to the risk of being charged as accessories.

PHARMACISTS AND THE PHARMACOPŒIA.

SOME prophet will soon have to tell the English nation that in all things they are getting too sentimental. The grievances concerning which individuals lash themselves into fury, and which form the bulk of political discussions, are in nine cases out of ten sentimental. The secretary tribe lives on this innate sentimentality, and nourishes it with a fervour not to be surprised at. We should be sorry to scoff at this spirit, it is often the manifestation of a noble disinterestedness which keeps society from sinking altogether into the slough of selfishness, towards which the paths of idleness and indulgence inevitably lead. This generous sentimentality is always worthy of respect, even when we cannot sympathise with the objects aimed at. And a selfish sentimentality is not always to be condemned. Men have their rights and are justified in asserting them. But they must expect such claims to be rigidly examined when they ask the outside public to concede them.

The sentimentality which seems to have seized on the imagination of a number of pharmacists in respect of the compilation and revision of the British Pharmacopœia is distinctly of the latter class. At least it is certainly not higher; it is doubtful whether it even reaches such a level. That is, it is not certain that what it calls its rights are rights at all. Several members of the Pharmaceutical Council, men who look on with philosophical equanimity when the apothecaries, the stores, or the public analysts try to smash up what little trade is left to chemists, are trembling with passion because the Medical Council and the House of Lords decline to submit to their dictation as to a perfectly fanciful right. The President of the Pharmaceutical Council has been to see the President of the Privy Council about this "right," and the best he could say of his interview was that the Lord President "listened to him patiently." Lord Carlingford evidently found it difficult to diagnose the grievance presented to him.

What is this right for the assertion of which Mr. Greenish urges that "the House of Commons should be flooded with petitions," and Mr. Hampson would use "all legitimate and constitutional means," for which Mr. Symes would "go any reasonable length," while Mr. Schacht would throw away diplomacy, and go boldly before the authorities, letting all the world know what is demanded? The "just claim" is, that pharmacists as such should have a legal, representative position on the committee or board to which it may be decided to entrust the publication of a National Pharmacopœia. The arguments in favour of this course have been stated over and over again, but we repeat them once more. They are (a) that pharmacists are so recognised in other European countries, while in the United States they actually form a majority of the Pharmacopœia Commission; (b) that the technical knowledge necessary to ensure a good Pharmacopœia is essentially that which a pharmacist has acquired; and (c) that as the Pharmacy Act and the Sale of Food and Drugs Act take the Pharmacopœia as declaring a standard

of purity, the principle of representative government demands that pharmacists should have an authoritative voice in fixing that standard.

We have the sincerest sympathy with the objects of the gentlemen who are urging these claims so vigorously. We think nothing but good would come if pharmacists were officially admitted to a share of the work. But the only question we are now considering is, whether they can reasonably claim such admission as a right. We have always failed to see that they can, and we are driven to think that the unusual energy of the Pharmaceutical Council in this cause may, to some extent, be regarded as supplementing their obviously deficient arguments. If pharmacists cannot make out a "just claim" to the position they demand, surely it would be sensible of them to recognise that fact before they engage in the sentimental enterprise to which they are invited of flooding the House of Commons with petitions. The Pharmacopœia is essentially a formulary which physicians have agreed to publish in order to make it easy for them to write, and for others to dispense, their prescriptions. No one is compelled to become a dispenser of doctors' prescriptions; but the law stipulates that anyone who does undertake that duty shall perform it in accordance with the recognised Pharmacopœia. How can pharmacists have a "right" to come between physicians and their prescriptions? That pharmacists alone are competent to prepare a satisfactory Pharmacopœia is true enough, and the Medical Council admit that fact and employ pharmaceutical experts to carry out the pharmaceutical work. But they are obviously within their right in claiming to be sole arbiters of what shall and what shall not appear in their formulary. That pharmacists in other countries are appointed on the Pharmacopœia Commissions is about equivalent as an argument to the child's cry for a Noah's Ark because the little boy next door has got one. Moreover, it should be remembered that in Europe pharmacists are appointed to do the work because they are looked upon as the servants of the State, while in the United States anybody, or any individual, may prepare a formulary and get it recognised as a national Pharmacopœia if he can. In reply to the last argument, it is sufficient to say that if the recognition of the Pharmacopœia in the Sale of Food and Drugs Act gives chemists the right to be represented in the revision of the Pharmacopœia, it gives grocers a similar right. The same Act provides for a reference to the Inland Revenue chemists. Is it a breach of the British Constitution that pharmacists are not officially represented at Somerset House?

No one less than ourselves wishes to oppose the fair claims of chemists. But we see no good at all in going to war with weapons which cannot be trusted. We are asked to join in opposing the Medical Acts Amendment Bill unless we can enforce the cession demanded. Most seriously we urge chemists not to put themselves in this false position. The Medical Acts Amendment Bill contains nothing to injure pharmacists or to call for their opposition; if passed, it will be a good Act for chemists, as it repeals the vexatious clause in the Apothecaries Act, under which prosecutions have been, and may again be, undertaken for acts which chemists perform every day. And we are to oppose the Bill unless we can get this recent whim gratified! If the case had been much stronger than it is, the present would not have been a well-chosen time for forcing on a quarrel with the medical profession. A new Pharmacy Bill may come forward before long, and the doctors would naturally take some interest in that. If we do not get their support in that we shall at least be glad of their benevolent neutrality. When the Medical Council really love us they

will invite pharmacists to take some part in forming the Pharmacopœia; but no Act of Parliament will make them love us.

FRENCH PHARMACEUTICAL LEGISLATION.

In March last we alluded to a proposed law submitted to the French Chambers by two deputies of the Extreme Left, MM. Delattre and Fréhault, on the "police of pharmacy." We then quoted the remarks made on this proposition by a Paris newspaper; we have since received a copy of the document itself, and find it of sufficient general interest to make it worthy of attention. The proposition, we may mention, is a rival to one submitted by another deputy, a M. Faure, which latter is more directly conceived in the interest of pharmacists. All the Bills submitted to the Chambers relating to this subject have now been sent to a Pharmaceutical Commission.

A French bill, or "proposition de loi," is generally prefaced with an interesting "Exposé des motifs." It is with this explanation of the purposes of the Bill that we are concerned.

The authors begin by asking the pointed question, "Is the public made for pharmacy, or is pharmacy made for the public?" Such a question, they say, is not impertinent in view of the numerous propositions which have come before the Chamber, emanating from various groups of pharmacists. M. Faure's Bill they especially criticise. He would interdict the liberty of the press by forbidding the advertisement of medicaments if they are recommended as curative. He would abrogate the permission given to doctors to supply medicines in communes where there is no pharmacy, and would only allow it where a pharmacist does not reside within six kilometres. He would require Government sanction for every medicine before it might be sold. He would perpetuate the Imperial system of two classes of pharmacists—as if in a democracy there could be two classes of patients. In this and other respects, they conclude, the authors of the various propositions submitted have not been able to free themselves from the influence of professional interests.

A law can only be justified in so far as it aims to promote the general interest. Its objects ought never to be the interest or the prestige of individuals, nor the consideration of any "caste," however interesting. A monopoly is an infringement of liberty and equality, and can only be justified by the clearly demonstrated requirements of public order. Does the general interest, then, justify the maintenance of the monopoly in the sale of medicines which pharmacists at present enjoy? The authors believe that it does.

They say the syndicate of French pharmacists are ready to accept the absolute freedom of their commerce, and they do not demand it only because their interests in this matter are so closely associated with those of the medical profession. It would be difficult to conceive a free pharmacy with rigorous laws against the illegal practice of medicine.

Nearly all nations have recognised the necessity of this monopoly. In Germany it is far more rigorous than in France. The pharmacist there is a Government official, and in a town of 10,000 inhabitants enjoys the complete monopoly of the preparation and sale of medicines, and gains his thirty or forty thousand francs a year. He has a similar position in Sweden and Norway. In free England a series of regulations tend to organise the monopoly of pharmacy more and more precisely. In Spain monopoly is fortified by three grades: the bachelors, licentiates, and doctors. The

doctorate of pharmacy is conferred with great solemnity and with triumphal marches. In Italy great abuses are leading the Legislature to the creation of a privileged class, and even the love of liberty in the United States has not prevented the tendency towards a similar limitation developing itself.

French history shows very remarkably the same necessity. In the middle ages the grocer-apothecaries obtained a Royal ordonnance granting them the privilege to sit on the right of the altar at the mass of St. Nicholas their patron saint, while the ordinary grocers from whom they had separated themselves had to sit on the left.

The authors then quote the oath of the apothecaries, which we printed in our previous notice. They give it, they remark, in order to remind legislators of to-day that their work may be criticised by their successors five hundred years hence.

Continuing, they refer to the ordonnance of 1777, which limited the privileges of the Royal pharmacists and created the school which was to become so honoured by its eminent students, and then come to the Revolution of 1789, which in one day upset all the monopolies and privileges and close corporations of centuries. Freedom of commerce was everywhere instituted, and the Revolution maintained it energetically against all the efforts of the reactionaries, except in one instance. Very little time after abuses in the affairs of pharmacy became so serious that something had to be done. There was no time to make new laws, and the Government simply re-enacted the old Royal ordonnances, and under them pharmacy was governed all through the revolutionary period. It was not till "germinal" of the year XI, that the law was promulgated which, with certain modifications, still exists, and of which the essence was regulation, privilege, monopoly.

The authors hope that in twenty or thirty years to come general knowledge of hygiene, chemistry, and natural history will have so far developed that pharmaceutical monopoly may be no longer needed; but so long as doctors of the Faculty of Medicine of Paris write such prescriptions as "Take two spoonfuls of Lourdes water every morning," or "mica panis argentea," they think the time has not come to abandon the policy of the legislators of the Revolution.

Their proposals are mainly these: First, to abolish the grade of pharmacists of the second class (respecting existing rights, however), and thus to ensure a highly-educated body of men spread all over France, in the hope that these will help to make hygienic and chemical knowledge general.

Second, to give the pharmacien the right to sell whatever medicines the public may demand of him, with the exception of certain poisons to be specifically named. They believe that every citizen of a Republic ought to have the liberty of physicking himself, at his own risk, as may seem good to him, without the necessity of first calling in a physician. The old law on this point they declare neither is nor can be enforced.

Third, to suppress quackery. To this end they would enforce the law against secret remedies. Every citizen ought to know what he is doing, and every patient ought to know what he is taking. They do not object to the advertisement of specialties, but they demand that pharmacists should be responsible for all they sell. They ought themselves to prepare all their medicines, or at least ought to be able to analyse them.

Among the details of their Bill they propose that the Government should send a commission of examiners to the centres where pharmacy is taught, to award diplomas.

They give freedom to women to obtain diplomas.

They prohibit partnerships in pharmacy except between pharmacists.

They object energetically to the suppression of herbalists, and they limit the monopoly of pharmacists to the official medicaments of the Codex.

They have no objection to pharmacists engaging in another business, provided they do so quite separately from their pharmacy, and they see no reason why a man holding both the pharmaceutical and medical diplomas should not practise both professions.

On the vexed question whether pharmacists should have the exclusive right of preparing veterinary medicines, they conclude that, as "our inferior brethren" do not prepare their own remedies, and as the manipulation does not involve a less degree of knowledge, the privilege ought to be restricted to pharmacians.

There is one other point in this proposition which demands especial attention in this place. MM. Delattre and Frebault propose that "No one shall exercise the profession of pharmacien *unless he is French*, and provided with a diploma as pharmacien, obtained in France. Exception to this clause shall only be made for foreigners by virtue of diplomatic treaties based on complete reciprocity." Concerning this the authors say, "In its relations with foreign nations pharmacy should stand on a footing of perfect reciprocity. In Germany, for example, the number of concessions is limited, while other countries are overrun with emigrant pharmacians. Let us be hospitable: but let us not be imposed upon. Let us offer reciprocal conventions: but let us not forget that fair exchange should regulate the dealings of nations as well as of individuals." This country, at any rate, could offer perfect reciprocity, as our regulations make no objection to any Frenchman passing our examinations and carrying on business here. But if the clause quoted should ever become law, we suppose a "diplomatic treaty" in reference to pharmacy would be called for.

MR. G. W. SANDFORD has given notice of his intention to move at the annual meeting of the Pharmaceutical Society—

That in the opinion of this meeting certain provisions set forth in the proposed Bill to regulate the sale of poisons and alter and amend the Pharmacy Acts require alteration, especially clauses 4 and 5, which render retail vendors of patent or proprietary medicines, who have not and cannot have any control over the required labelling of such medicines, liable to prosecution for insufficient labelling, for which offence the proprietors only should be and can be made responsible.

THE Committee of the Vienna International Pharmaceutical Exhibition have secured two concessions: first, that all goods sent to the Exhibition shall be admitted duty free, though if sold the duty must be paid; and, secondly, that all such goods will be returned free of charge by the Austrian railways to the frontier.

AN account of a recent dining of Lynn (Mass.) druggists has been set to the following stately verse:—

A number of druggists of Lynn
Went in a body to dine at an inn;
For fear they might want 'em,
They took of liquors a quantum,
And in the morning their heads were aching.

PROFESSOR TICHEBORNE seems to consider that the selection of Englishmen exclusively as editors of the new Pharmacopoeia is one of the usual manifestations of Saxon tyranny, and he points significantly in the Irish Pharmaceutical Council to the Home Rule banner outside. He might in fairness remember that the Pharmacopoeia Committee of the Medical Council, who appointed these editors, consists of seven members, three of whom are Irish representatives, and one of them is his own vice-president.

THE Pharmaceutical Council waxed warm over the alleged disloyalty of the professors of their school in accepting from the Medical Council the task of preparing the new Pharmacopoeia. The indignation may be quite properly placed for anything we know; but first of all the question put by Mr. Young ought to be distinctly answered; did any member of the Council know of the communications passing between the professors and the Medical Council? We observe that the question was not replied to, and we also notice that Mr. Greenish said the professors had not given any official intimation of their engagement. The ethical question is likely to be a nice one; but clearly the case is altered considerably if any members of the Council were informed of what was going on. An official intimation from the professors to the Council would have been very much like asking permission, and we presume the gentlemen in question do not think it necessary to make any such application.

It would seem as if the Medical Council really intended to pay the Pharmaceutical Society a compliment by entrusting the work of the Pharmacopoeia to the three professors of the School of Pharmacy. They intimate further that it is their intention to directly ask the Pharmaceutical Society for suggestions, and though that application had not been received when the Pharmaceutical Council last met, it would no doubt have arrived in due course. Perhaps a Council meeting immediately following the dinner next week will be the best means of restoring peace and happiness all round.

THE Law Officers of the Crown in Ireland seem to have no intention of taking their salaries without earning them. They have a pretty extensive business on hand in their match with Mr. Tynan and his myrmidons; but they would not seem to be short of leisure to judge from the extraordinary resolution they have drawn up for the Pharmaceutical Society of Ireland, which is printed in our report of that body. Persons who wish to learn how to write the English language with propriety may consult that lesson; but we may remark that if public bodies ever come to draw up their resolutions after the fashion of this model one, the world itself will not contain the minute-books which will be compiled in consequence.

WE have already reported some proceedings in the case of Williams v. Bignold. Williams & Co. were paint manufacturers and mixers at Manchester, who insured against fire in the Norwich Union Insurance Company. One clause in the policy provided that the insurers should not manufacture varnish. Their premises were burnt, but the Insurance Company refused to pay, on the ground that Messrs. Williams had infringed their policy by the manufacture of Brunswick black. The case has been previously tried on the question if Brunswick black is varnish, and it came on again on April 14 in the Supreme Court of Judicature, before Mr. Baron Pollock and a special jury. After deliberating for an hour and a quarter, the jury gave a verdict in favour of the plaintiffs, Messrs. Williams.

WE have been asked to urge chemists and druggists to attend the adjourned meeting of the National Traders' League, to be held at the Cannon Street Hotel, on the 22nd inst., at 1 P.M. The League, whose offices are at 27 Leadenhall Street, aims "to legislatively suppress trading by Government officials; to obtain a more equitable distribution and reduction of the excessive burden of taxation inflicted upon traders particularly; to maintain and uphold the just and lawful interests of traders generally; and to agitate for a substantial reduction in the exorbitant national expenditure, now amounting to 85,000,000, the bulk of which comes out of the trader's pocket." It was the committee of this League that waited upon Mr. Peter Rylands, as we mentioned last month. It was organised among the grocers, but it is desired to include all traders who sympathise with the objects.

DURING the passage of the Medical Acts Amendment Bill through committee of the House of Lords on April 19,

Lord Carlingford proposed several verbal amendments with the object of taking care that foreign countries, or colonies, should not make use of the powers contained in the Bill for the purpose of obtaining the advantages therein without giving this country corresponding advantages. Whereupon the Marquis of Salisbury, commenting on this tendency to fair trade, remarked that some drugs were absolutely prohibited in foreign countries, not because they were bad, but because they were prepared out of the country. He thought it might be possible to remedy this defect. Lord Carlingford said he did not think they had anything to do with drugs in the Bill. If he had charge of a Pharmaceutical Bill in the course of the session he would bear the matter in mind. So it has now come to "if he had charge of a Pharmaceutical Bill."

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MR. LIGHTLY SIMPSON, who died in London on April 19, at the age of seventy-four, and was the senior director of the Great Eastern Railway Company, and at one time its chairman, was many years ago a Manchester pharmacist. A native of Yorkshire, Mr. Simpson upon coming to Manchester entered the service of Mr. Gaultier, druggist, in Piccadilly. Subsequently, more than half a century since, he commenced business on his own account in Princess Street. Here he attracted the *élite* of the town, and, realising a handsome fortune, disposed of the business in 1846 to his former apprentice and now well-known successor, Mr. Thomas Ransome. During the palmy days of the "Railway King" Mr. Simpson embarked some of his savings in "scrip," in which he was reputed to have been fairly successful. At an early period of his history he joined the board of the East Anglian Railway, on which he served successively as director, deputy-chairman, and chairman. About 1850 he became a director of the Eastern Counties Railway Company, then under the chairmanship of Mr. David Waddington, M.P. In 1870 he was elected deputy-chairman of the Great Eastern board under the chairmanship of Viscount Cranborne, now Marquis of Salisbury. Upon the resignation of the Marquis, Mr. Simpson was elected his successor, a position which he held for some time.



AND

Literary Notes.

Tapeworms: their Sources, Varieties, and Treatment. With 180 cases. By T. Spencer Cobbold, M.D., F.R.S. Fourth edition. London: Longmans, Green & Co. 1883. Pp. 133.

DR. SPENCER COBBOLD is known wherever domestic animals are scientifically considered. Only last year he published in the Transactions of the Linnean Society an important paper on the parasites of elephants. In the book before us he states that, besides several separate works, his published papers on parasites number not less than 200.

In this little treatise he confines his attention to a single genus of intestinal parasites infesting man. This genus has received the two names *Tenia* and *Bothriocephalus*, and thirteen distinct species have been found in different quarters of the globe. Two only are of common occurrence in Great Britain. All the species are curious from the fact that during one complete generation each passes through at least two different forms in two distinct hosts. The two commonest species pass the first period of their life in the pig and the ox, producing measles and pork and measles beef; when this is eaten the worms develop themselves in the human intestines, and then only become capable of sexual reproduction. By thorough cooking even measles flesh becomes innocuous by the destruction of the germs.

Dr. Cobbold avoids religiously all attempt at scientific description and discrimination of the species. He admits that "the ordinary druggist's assistant can very well perform the function of prescribing and making up a male-fern mixture," but claims that the proper management of tape-

worm cases is largely dependent upon an accurate knowledge of the structure, habits, and general economy of this singular class of parasites (p. 43). He gives particulars of 180 cases, and remarks that hardly one has come to him that has not been treated by other practitioners and abandoned in despair. Of those that were actually infested by the worm five-sixths were absolutely cured—a strong confirmation of his claims.

The point Dr. Cobbold insists on is that treatment should not be abandoned until the *head* of the parasite is secured. Every particle of faeces passed should be carefully scrutinised, and the treatment must be varied and repeated until the easily-overlooked head rewards the practitioner's diligence.

Not the least singular part of the subject is the large proportion of patients who consult Dr. Cobbold for the removal of parasites which have no existence. Out of 152 unselected cases alluded to no less than 46 were delusive; that is, the patient had either never suffered or had long been delivered from this plague.

The tæniage on which Dr. Cobbold mainly relies is oleo-resin of male fern.

A "RETURN of the rates of import duty levied in the United States upon the principal articles of the produce and manufactures of the United Kingdom under the present Customs Tariff, and of the rates proposed to be levied under the New Tariff Act, passed March 3, 1883," has been prepared by the Board of Trade, and published by Messrs. Spottiswoode, Queen's printers, price 4d. The rates of duty are printed in parallel columns, conveniently classified.

"THE MINUTES of the General Medical Council, of its Executive Committee, and of the English Branch Council for the year 1883," have been published by Messrs. Spottiswoode & Co. As the session of the Council only closed on April 26, and as this report was received by us on May 7, in a bound form, and compiled in a most convenient manner, it must be admitted that the secretarial work of the Council is performed with ability and despatch not always met with in official departments.

OUR friends, the proprietors of the *Tropical Agriculturist*, published at Colombo, Ceylon, have sent us a few copies of that journal for distribution among persons interested in the subjects it discusses. The *Tropical Agriculturist* is a repository of information on all matters relating to the cultivation of cinchona, cocoa, coffee, cardamoms, &c. We shall be glad to send these specimens to first applicants. Those who do not receive a copy will please understand that our supply is exhausted.

Personalities.

A BARONETCY has been conferred on Mr. T. Spencer Wells.

MR. MARCUSSEN's business at 246 Commercial Road, Old Kent Road, S.E., has been sold to Mr. Fox, through the agency of Messrs. Taylor & Co., of 38 Walbrook, E.C.

MR. W. C. WEST's business at Deptford Road, Rotherhithe, has been disposed of to Mr. Rowe (late of Redruth), through the agency of Messrs. Taylor & Co., of Walbrook Chambers.

MR. WM. BEATON's business at 51A, High Street, Camden Town, has been sold to Mr. Geo. Bunt, through the agency of Messrs. Taylor & Co.

MR. R. C. EDWARDS's business at 6 Lower Tulse Hill, S.W., has been sold to Mr. Jno. Edmunds (late of Shepherd's Bush), through the agency of Messrs. Taylor & Co., of Walbrook, London.

MR. E. STEPHENS, who represented Messrs. Whitaker & Grossmith for twenty-one years in London and the South-west of England, has become a representative of the Crown Perfumery Company.

DR. JAMES MATTHEWS DUNCAN has been appointed one of the Crown representatives on the General Medical Council in place of Sir William Gull, who, as we mentioned last month, has resigned.

GENERAL GRANT evidently does not hold the same medical faith as Prince Bismarck. Asked to sign the petition in favour of making all physicians equal before the law in the Government service, he said he would "give homœopaths no encouragement, directly or indirectly."

MEDICAL HUMOUR.

"Do you believe in ghosts?" asked a lady of one of our celebrated surgeons, at a dinner the other day. "I should be sorry to believe in them, madam," was the reply. "Sorry! and why?" asked the lady. "Because if I did," rejoined the surgeon, "I should never dare to practise my profession."

OUR friend J. is the picture of health, 6 feet high, and broad in proportion; but he is somewhat nervous when his liver gets at all out of sorts. He went to consult, the other day, a physician, who has as much reputation for his humour as for his science. "What do you chiefly complain of?" asked Mr. D. "I have lost my appetite," answered the invalid, in a voice which almost made the windows rattle. "Mercy!" soliloquised the doctor; "I hope no poor man has found it."

Chambers' Journal tells the story of an Irish student who appeared before an Examining Board to undergo an examination in medical jurisprudence. "Pray, sir," said the examiner to the candidate, "what is a poisonous dose of prussic acid?" After cogitating for a moment, the student replied with promptitude, "Half an ounce, sir!" Horrified at the extreme ignorance of the candidate, the examiner exclaimed, "Half an ounce! Why, sir, you must be dreaming! That is an amount which would poison a community, sir, not to speak of an individual!" "Well, sir," replied the Hibernian, "I only thought I'd be on the safe side when you asked a poisonous dose!" "But, pray, sir," continued the examiner, intent on ascertaining the candidate's real knowledge, "suppose a man did swallow half an ounce of prussic acid, what treatment would you prescribe?" "I'd ride home for a stomach-pump," replied the unabashed student. "Are you aware, sir," retorted the examiner, "that prussic acid is a poison which acts with great rapidity?" "Well, yes," replied the student. "Then, sir, suppose you rode home for your stomach-pump; and on returning you found your patient dead. What would you do then?" asked the examiner, in triumph, thinking he had driven his victim into a corner whence there was no escape. "What would I do?" reiterated the student. "Do?—why, I'd hold a post-mortem!"

FRENCH CORRESPONDENCE.

—The Dean of the Faculty of Medicine of the Paris University reports that during the academic year 1881-2 there were 39 female students regularly following the medical course, subsequent to the Preliminary, Scientific, and Literary examinations. They were of the following nationalities:—11 English, 10 French, 9 Russian, 5 American, and 1 each Hungarian, Pole, Roumanian, and Indian.

The letter mentioned last month as having been written by the murderer Fenayrou to his wife has been since declared to be apocryphal.

—At Cognac (Charente), last month, the porter of a pharmacist, M. Ordonneau, went into a cellar with a lighted candle, when a violent explosion occurred, which blew out the front of the shop above. The report says that there were in the cellar vessels containing benzine, ether, and alcohol, and that it is supposed an explosive atmosphere had been formed, from which it is to be presumed that these substances were kept in imperfectly-closed vessels.

The Minister of Public Instruction has organised a mission to the Regency of Tunis charged with botanical researches. The party is to be under the direction of M. Casson, member of the Institute, and will be accompanied by several of the preparers of plants at the museums.

—The Minister of Public Instruction has also authorised another scientific commission, somewhat after the character of the English *Challenger* expedition. This commission will sail in the *Talisman*, and is charged to dredge in the Atlantic, especially round the Canary Islands, the Azores, &c. M. Alphonse Milne Edwards, member of the Institute, will be the president of the expedition, and among those who will accompany him is M. C. Brongniart, "preparateur" at the School of Pharmacy.

—A shocking accident occurred this month at the works of the Pharmacie Centrale at St. Denis, a workman, thirty-seven years of age, having by some means unknown fallen into a vat of boiling acid. He was got out with great difficulty; his flesh fell off in rags; and, after being transported to the hospital, he expired in great agony.

—A Paris druggist named Vasey has been condemned to a week's imprisonment and 2,000*f.* damages, for repeated sales of morphine to a Madame Junot, amounting in 17 months to 693 grammes. His customer at first presented the medical prescription, without which no poisonous drug can legally be supplied in France, and on her second purchase produced the same prescription, but after this she went constantly to the shop without producing any prescription, and she is now in a lunatic asylum. The husband then took proceedings, and has recovered damages.

—M. Menier, son of the late wholesale druggist, chocolate merchant, and Deputy, has lately bought the chateau of Malnoe, erected by Nelaton, the eminent surgeon, together with an estate of 150 hectares, for the sum of 500,000*f.*

—The furniture and stock of M. Bravais' pharmacy, in the Avenue de l'Opera, were sold by auction last month, and now the pharmacy of "the late" M. Aubert, the victim of the Fenayrou pair, is announced for sale.

Obituary.

ANDERTON.—On March 24, Mr. John Anderton, chemist and druggist, Northgate, Halifax. Aged 60 years.

BAKER.—On April 21, Mr. Thomas Baker, chemist and druggist, Islip Street, Kentish Town, London. Aged 41 years.

BROCK.—On April 7, Mr. George Walter Brock, chemist and druggist, Chelmondiston, Suffolk. Aged 43 years.

DRURY.—On April 12, Mr. George Samuel Drury, chemist and druggist, Parrock Street, Milton. Aged 50 years.

HOWELL.—On April 8, Mr. William Howell, chemist and druggist, King's Lynn. Aged 29 years.

HURST.—On April 13, Mr. John Becket Hurst, pharmaceutical chemist, Market Place, Louth. Aged 36 years.

HUTCHINSON.—In April, Mr. Charles Herbert Hutchinson, formerly assistant-curator in the Pharmaceutical Society's Museum, and subsequently assistant to Professor Armstrong. Aged 24 years. Mr. Hutchinson, after studying chemistry at 17 Bloomsbury Square, attended the laboratory of Professor Fresenius, in Germany, and great hopes were entertained of his scientific future.

MARTIN.—On April 10, Mr. Frederick Robertson Martin, pharmaceutical chemist, Clevedon. Aged 40 years.

PAIGE.—On April 6, Mr. John Allan Paige, chemist and druggist, South Street, South Molton. Aged 79 years.

REAY.—On April 2, Mr. John Reay, chemist and druggist, St. Bees, Cumberland. Aged 54 years.

WATKINS.—On March 21, Mr. John Watkins, chemist and druggist, High Street, Abereavenny. Aged 53 years.

WILSON.—On April 8, Mr. George Wilson, chemist and druggist, Cathcart Street, Greenock. Aged 53 years.

MARRIAGES.

BARON—ROBINSON.—May 9, at the Friends' Meeting House, Plymouth, Barclay J. Baron, M.B., C.M., of 12 Richmond Hill, Clifton, Bristol, son of Josiah Baron, of Plymouth, to Janey, elder daughter of Winfield Robinson, chemist, of Torrhill House, Ivybridge.

HUNT—BARKER.—May 7, at Ebenezer Wesleyan Chapel, Plymouth, by the Rev. W. H. Cave, Freeman W. Hunt, pharmaceutical chemist, of the firm of Clare & Hunt, of Scarborough, to Emily, third daughter of N. Barker, 8 Capra Terrace, Plymouth.

Foreign and Colonial.

AMERICAN LINT.—Messrs. Seabury & Johnson, of New York, have just established lint-works, the first in America. They have secured the services of the inventor and patentee of linting machinery in England.

A LARGE ORDER.—A tobacco factory at St. Petersburg has received a Government order for 30,000,000 of cigarettes, which are to be distributed among the troops and the people on the occasion of the Czar's coronation. These will require about 20 tons of tobacco.

CINCHONA IN BENGAL.—The Government cinchona plantations in Bengal yielded a net cash profit in 1882 of 130,000 rupees, besides an estimated saving of 350,000 rupees on the cost of quinine for the troops. The original outlay on those plantations was 1,300,000 rupees. The profit on the enterprise is, therefore, nearly 38 per cent.

POISONING BY GELSEMINUM.—A sailor, employed about the United States Government Marine Hospital, on March 5 asked the man on duty at the drug store to let him drink some gentian. The man, knowing that he had been in the habit of doing this, did not demur. The sailor took the gelseminum bottle by mistake, and drank about half an ounce. On reaching New York he became very ill, and died when taken back to the hospital, in spite of the efforts of the physicians.

POISONOUS COLOURS.—A decree, prohibiting poisonous colouring of certain articles of food, came into operation in Germany on April 1. Poisonous colours within the meaning of the Act are any containing antimony, arsenic, barium (except sulphate of baryta), lead, chromium (except pure chromic oxide), cadmium, copper, mercury (excepting cinabar), zinc, tin, gamboge, picric acid. The use of packings coloured with any of the above is likewise prohibited, and, except in certain varnishes, these must not be used for colouring playthings. The use of colours prepared with arsenic for the manufacture of paper-hangings, as well as that of pigments containing copper prepared with arsenic, and of matters containing similar colours for the manufacture of materials of dress, is prohibited.

BANKRUPTCIES AND LIQUIDATIONS.

Re WILLIAM LONG, Chemist and Druggist, Coleshill Street, Birmingham.

At the Birmingham Court, last month, Mr. Powell, on behalf of Messrs. Harris & Co., wholesale chemists, of Bull Ring, applied to set aside a restraining order made by Mr. Registrar Parry against his clients. Messrs. Harris had obtained judgment against the debtor, and the affidavits they had filed showed that on April 5 judgment was signed, and an execution was issued on the 7th. As to what took place between the 7th and 10th of the month he was in the dark, but on the 10th, three days after the execution was issued, a bailiff went to the debtor's house, some conversation took place, and the bailiff, at the request of the debtor, left. His Honour said he must have some explanation why the execution, which was said to be issued on the 7th, was not levied until the 10th. Mr. Powell said that was one question he wanted his Honour to have an inquiry made into. Mr. Powell added that on the mornings of the 11th and 12th the bailiff went again, but left on being requested to do so by the debtor. It might be said that no possession was taken at all, but he should urge that the possession taken on the 10th was a legal possession, and that it was in force when the petition was filed. His clients were profoundly dissatisfied with this state of things. His Honour: They cannot be otherwise. Mr. Powell: We have all possible respect for the high bailiff, but undoubtedly there must be people about him whom he cannot always control, and there is a suspicion of collusion between the bailiffs and the debtor. His Honour: Not only is there ground for suspicion, but collusion has been more than once proved between subordinates and the debtors. The high bailiff, in answer to his Honour,

said he knew nothing of the case. The debtor was examined and said that on the 10th inst. two bailiffs, named Wilson and Richards, went to his shop to levy for Messrs. Harris's debt. One of them asked if he could pay the money, and he said he could not for a day or two. Wilson gave him a piece of paper and went away, leaving Richards in possession. Richards remained half an hour. He (the debtor) told him he did not want him sitting in the shop and he had better go. He gave Richards a shilling and he went away. The next morning Richards went to the shop, and he (the debtor) gave him another shilling. Richards stayed a few minutes and then went away. On the following morning he came and received a third shilling. Charles Wilson and Albert Richards were examined, and the judge, after referring to cases on the subject, said that he must dismiss the motion. Mr. Powell's clients, however, had their remedy against the high bailiff. There had been gross and culpable negligence on the part of the persons he employed, and for whom he was responsible.

JOHN SAMBELL.

THE first meeting of the creditors of John Sambell, of Redruth, chemist and grocer, was held at the offices of Messrs. J. L. & T. C. Peter, solicitors, Redruth, on April 13, Mr. Henry Paige presiding. The statement of affairs showed:—Liabilities: Unsecured creditors, 1,973*l.* 9*s.* 3*d.*; creditors fully secured, 211*l.* 11*s.* 8*d.*; creditors for rent, taxes, &c., 39*l.* 1*s.* 3*d.* Assets: Stock-in-trade, estimated at 177*l.* 15*s.* 4*d.*; book debts, 60*l.* 3*s.* 11*d.*; cash, 51*l.* 15*s.* 2*d.*; furniture, &c., 166*l.* 10*s.* 6*d.*; other properties, 34*l.* 10*s.*; value of securities, 285*l.*; showing a deficiency of 1,388*l.* 7*s.* 3*d.* It was resolved to liquidate by arrangement.



SAVAR'S MAY BLOSSOM SPECIALTIES.

MESSRS. EVANS, SONS & Co., of Liverpool, and Evans, Lescher & Webb, of London, who work the business in Savar's numerous sundries, have added a new line to the extensive series of toilet preparations already known to the trade under that mark. These consist of a perfume, a soap, 6*d.* and 1*s.* pomades, ditto tooth-powder, and ditto tooth-pastes, all distinguished as "May blossom" articles, and all very really permeated with that delightful odour. Under the present conditions of weather and climate there seems very little prospect of our getting the perfume this year by nature's processes, which makes this series of specialties a touching memorial of those happy days of the past when the sun really did shine in May. The quality of these goods is excellent, and they are labelled and finished in a most tasteful style.

BARFF & WIRE'S LIQUID MEAT.

THIS new dietetic product is prepared by a process invented by Professor Barff, and is manufactured by Messrs. Barff & Wire, the Kreoehyle Company, Leytonstone. The special characteristic claimed for the article is that it is a cooked preparation, but retains all the albumen of the meat, we presume, in the form of a peptone. This liquid meat is a thin fluid of a brown colour, and a slight, pleasant meaty flavour. Under ordinary conditions it seems to keep well, at least for a short time, even after the bottle has been opened.

"THE SIXPENNY WIRE."—An enterprising firm of soap-boilers mean to avail themselves of the sixpenny telegraph system directly it comes into operation. I am told that they will send out 50,000 messages saying that all the best families use their soap.—*County Gentleman.*

Trade Notes.

MESSRS. BRATBY & HINCHLIFFE, aerated water engineers, of Manchester, London, and Philadelphia, have just completed extensions of their fruit essence manufacturing plant.

MESSRS. H. W. J. INCE & Co., of Dudley, are now the Supply Stores Association (Limited), with office at 218 Market Place, Dudley, Mr. H. W. J. Ince managing director and secretary.

MR. R. J. FULLWOOD, of the Steam Annatto Works, 31 Bevenend Street, Hoxton, E., has retired from business, and has made arrangements with his son, Mr. Alfred H. Fullwood, and Mr. Charles Bland, who have purchased the business, and will carry it on under the style of R. J. Fullwood and C. Bland.

With a capital of 25,000*l.*, in 1*l.* shares, the Beef Wine Company (Limited) has been formed for the purpose of purchasing the business of the proprietary articles registered as "Beef Wine" and "Vinum Vite," which has been carried on for the last five years at 115 Aldersgate Street, London, E.C. The purchase money is 5,000*l.*

EMERY'S INFALLIBLE OINTMENT, advertised in these pages, is stated to be a family remedy which has been in regular use for 250 years. As it has never failed during that period, it is considered that a sufficient preliminary experiment has been made. Testimonials as to its efficacy in cases of wounds and sores have been submitted to us.

MESSRS. TYPEKE & KING have commenced business at 110 Cannon Street, as manufacturing chemists and dealers in chemicals. Mr. Typeke has superintended several large chemical works, and Mr. King has gained experience with Messrs. Dunn & Co., Messrs. Burgoyne & Co., and Messrs. Forster & Gregory.

NEW INDIGO SUBSTITUTE.—It is stated that bye-products in the manufacture of aluminium under the new patent process now being worked at Birmingham yield a fine blue dye, which can be sold at 6*s.* per oz., and that Messrs. Macgarratt, indigo merchants, of London, have contracted to take all these bye-products from the Crown Metal Works of Birmingham.

At the annual meeting of Kopf's Extract of Meat Company (Limited) held last month, the accounts presented showed that the business was not profitable, and a voluntary liquidation was resolved upon. The business was sold to the company four years ago for 30,000*l.* The chairman believed their failure was due to the fact that the English were not as a rule a soup-eating people.

MESSRS. DAVENPORT & Co., of 99 High Holborn, have issued a pamphlet giving particulars of fourteen patent stoppered bottles, for which they are agents, together with details and illustrations of various bottling machines and of several inventions of the past two or three years useful to the aerated-water trade. Any maker thinking of introducing one or other of the patent bottles will find it useful to compare prices and advantages as described in their pamphlet.

DU BARRY & Co. (LIMITED).—A public company is in course of formation, the object of which is to purchase the freeholds, plant, stock-in-trade, goodwill, and all rights in the business of Du Barry & Co., makers of the celebrated Revelenta Arabica, and other preparations. The prospectus is published among our advertisements, from which it will be seen that the new company is supported by men of substance and experience, including—to name those specially known to chemists—Mr. G. R. Barclay, of Farringdon Street, and Mr. H. Davenport, of Great Russell Street. Fifty thou-

sand pounds is to be paid for the whole property. This seems a considerable sum, but we are told it includes some valuable freeholds both in England and France, and, further, that the average profits for the last five years have shown a rate of 12 per cent. on the amount.

IN our last number, in the advertisement of the Montserrat Lime Fruit Juice and Cordial, we erroneously printed the trade-mark of the sole consignees, Messrs. Evans, Sons & Co., of Liverpool, and Evans, Lescher & Webb, of London, as if that were the trade-mark of the company. We have been politely asked to correct that impression, and in order to do so effectually we print here the trade-mark of the Montserrat Company (Lim.), which we ask our reader to observe.



THE ZOEDONE COMPANY are opening the new season with fresh vigour. From their advertisement it will be seen that they offer their beverage at considerably-reduced terms, and that, besides, they have arranged with about a dozen high-class firms in various populous centres to manufacture zoedone under their licence. This action will probably re-done some of the old zoe into the company's property.

We understand that the plan of licensing first-class firms to bottle Zoedone, which was introduced by Mr. Moss at the beginning of this year, promises to be very successful in its working, and will not only bring a good profit to the company, with a minimum of expense, but pay the licensees extremely well. Some of the present licensees formerly produced imitations, which had a good local sale, and the company makes a good move by thus at the same time disarming their former opponents and enlisting them to fight its own battle against railways and labour. We understand that Mr. Moss will resign the helm at Midsummer, by which time we hope his latest scheme will have brought the Zoedone Company into a settled prosperity.

NEW COMPANIES.—The following have been registered:—

Beef Wine and Vinum Vite.—To acquire the proprietary trade rights of the beef wine and vinum vite business, 115 Aldersgate Street, and to carry on the same. Purchase consideration: 5,000*l.*, 2,500*l.* in cash, and the residue in shares. Capital: 25,000*l.* in 1*l.* shares. Signatories (with one share each): H. Cordery, 143 Haverstock Hill; D. Hemmings, 17 Gracechurch Street; H. W. White, 88 Bishopsgate Street; W. H. Dalston, Finsbury Park; H. J. Walter, Finner's Hall, Old Broad Street; C. Gregson, Finner's Hall; C. W. Langford, Acre Lane, S.W. Registered April 21, 1883, without articles.

Lloyd's Universal Food Company.—On April 28, to carry on the trade of manufacturers and dealers in patent and other foods, and proprietary articles, both wholesale and retail; and to acquire the business of J. and C. Lloyd & Co., 68A Cowcross-street, E.C. Capital 30,000*l.*, composed of 4,350 preference shares, 1,625 ordinary shares, and 25 founders' shares of 5*l.* each. The subscribers are:—Mr. J. Holdsworth, 19 Golden Square, Regent Street, 1 share; Mr. J. H. Mitcheiner, 35 Seething Lane, 1; Mr. C. Robson, 2 Bartholomew's Road, Camden Town, 1; Mr. J. Robson, 5 South Villas, Camden Square, 1; Mr. W. D. Stone, 19 Oxford Terrace, Hyde Park, 1; Mr. M. Theobald, 23 St. Swithin's Lane, 1; Mr. C. M. Wright, St. James' Road, Brixton, 1 share. The first directors are Messrs. Holdsworth, Mitcheiner, C. Robson, Stone and Wright.

Ceylon Tea Company.—To start, acquire, or manage any of the following businesses:—Growers of tea, coffee, cocoa and cinchona, and merchants thereof; and to purchase the business of Messrs. Anson & Co., tea merchants, of St. Dunstan's Hill, E.C. Capital 100,000*l.*, in 100,000 shares of 1*l.* each. The subscribers are:—Mr. J. H. Alexander, 66 Inverness Terrace, W., who takes one share; Mr. W. Rollo, 5 Stanley Gardens, 1; Mr. W. M. Leake, 65 Fenchurch St., 1;

Mr. F. Edenborough, Wool Exchange, E.C. 1; Mr. J. G. McCullagh, 4 Essex Court, Temple, 1; Mr. A. M. Gepp, Customs Chambers, St. Dunstan's Hill, 1; and Mr. T. Duncan, jun., 50 Mark Lane, 1 share. The first-named six subscribers form the first directorate, their share qualification being the holding of stock of the value of 100*l.*, and their remuneration 700*l.* per annum.



The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, patent agent, 2 South Street, Finsbury, London, and at Paris and Brussels.

Applications for Letters Patent:—

Aerated Waters.—No. 1892.—F. Bennett, of Ludgate Hill, London. Improvements in apparatus for the preparation of aerated waters or beverages. Dated April 13, 1883.

Alcohol, &c.—No. 1697.—J. H. Loder, of Leiden, Holland. Improvements in the manufacture of alcohol, and of alcoholic solutions of colouring matters and other principles. Dated April 4, 1883.

Ammonia.—No. 1842.—R. Tervet, of Clippens, Renfrewshire, Scotland, oilworks manager. Improvements in the production of ammonia or compounds of ammonia. Dated April 12, 1883.

Ammonia, &c.—No. 2263.—L. Q. & A. Brin, both of Paris. Improvements in the production or manufacture of ammonia and nitric acid and other acids, and in apparatus therefor. Dated May 3, 1883.

Bandage.—No. 1718.—W. F. Bottmley, of Bradford, Yorkshire. An improved apparatus or bandage to be used by females. Dated April 5, 1883.

Barrels, &c.—No. 2013.—J. H. Hedley, of Liverpool. Improvements in barrels, barrel-tanks, or other like articles for holding corrosive or other liquids. Dated April 20, 1883.

Bottle-coverings.—No. 1670.—F. Hall, of Sheffield. Improvements in protective coverings for bottles (such as drinking flasks), and in the mouthpieces of same. Dated April 8, 1883.

Bottles, &c.—No. 1975.—J. Edwards, of Holloway, London. Improvements in bottles and in stoppers for same. Dated April 18, 1883.

Bottles, &c.—No. 2103.—A. J. T. Wild, of Arbinthorpe Road, Peckham, London. Improvements in bottles and stoppers, and in apparatus to be used in the manufacture of the said bottles, which invention comprises improved filling and stoppering machinery and an improved hushing material. Dated April 25, 1883.

Bottles, &c.—No. 2221.—W. R. Lake.—A communication from H. Robertson, of New York. Improvements in bottles, and in stoppering devices therefor. Dated May 1, 1883.

Capsules.—No. 2131.—E. P. Alexander.—A communication from C. Cheswright, of Paris. Improvements in capsules for bottles and similar receptacles, partly applicable to the prevention of fraudulent interference with the contents of such receptacles. Dated April 27, 1883.

Carbonate of Strontia.—No. 1912.—W. A. Rowell, of Newcastle-on-Tyne, chemical manager. Improvements in the manufacture of carbonate of strontia. Dated April 14, 1883.

Cattle Food, &c.—No. 1674.—P. Jensen.—A communication from S. O. Ejlor, of Ribe, Denmark, Canditatus Pharmaciae. Improvements in food for cattle and other animals. Dated April 3, 1883.

Chemical Action, &c.—No. 1710.—S. J. Wallace, of Keokuk, Iowa, United States. Improvements in apparatus and processes for generating and promoting electric and chemical action, and producing various products of such action, and of electrolysis. Dated April 6, 1883.

Cleaning Filtering Media.—No. 2080.—J. E. Hodgkin, of Queen Victoria Street, and E. Perrett, of Victoria Chambers, Westminster, both in London. Improvements in the mode of cleaning the filtering media of filters. Dated April 24, 1883.

Cleaning, &c. Sponge.—No. 2113.—R. F. Elms, of Baker Street, Portman Square, J. H. Payne, of Tavistock Row, Covent Garden, and F. R. Nuthren, of the Strand, all in London. A process for cleansing, beautifying, bleaching, or renovating sponge. Dated April 26, 1883.

Colouring Matters.—No. 1788.—P. J. Meyer, of Berlin, doctor of philosophy. Improvements in the manufacture of colouring matters. Dated April 9, 1883.

Colouring Matters.—No. 2104.—F. Wirth.—A communication from Messrs. Dittler & Co., of Griesheim, near Frankfurt-on-the-Main. Improvements in colouring matters. Dated April 25, 1883.

Colouring Matters.—No. 2184.—H. O. Miller, of Moscow. A new colouring matter called "canarine." Dated April 13, 1883.

Colouring Matters.—No. 2237.—S. Pitt.—A communication from Verein Chemischer Fabriken, of Mannheim, Germany. Improvements in red dye stuffs suitable for dyeing and printing. Dated May 2, 1883.

Concentrating Sulphuric Acid.—No. 2035.—S. B. Bowen, of Llanelly, Carmarthenshire. Improvements in the mode of concentrating sulphuric acid, and in apparatus for the same. Dated April 21, 1883.

Cooling or Warming Milk, &c.—No. 1916.—F. T. Bond, of Gloucester, doctor of medicine. An improved appliance for cooling or warming milk and other liquids. Dated April 16, 1883.

Corkscrews.—No. 2022.—R. Dolberg.—A communication from C. F. A. Wienke, of Rostock, Mecklenburg-Schwerin. Improvements in lever corkscrews. Dated April 20, 1883.

Dye.—No. 1964.—G. A. Bang.—A communication from G. A. Dahl, E. Dahl, and R. Dahl, of Barmen, Germany. An improved method of producing a yellow dye. Dated April 18, 1883.

Explosives.—No. 1883.—F. W. Gilles, of Cöln-on-the-Rhine. Improvements in the manufacture of explosive compounds. Dated April 13, 1883.

Explosives.—No. 2139.—E. Turpin, of Rue de la Victoire, Paris. Improvements in the manufacture of explosive compounds. Dated April 27, 1883.

Extracting Oils.—No. 2102.—J. Imray.—A communication from J. A. Bang and C. A. Sanguinetti, both of Paris. Improvements in the process for extracting oils by diffusion and in the preparation of materials and arrangement of apparatus for that purpose. Dated April 25, 1883.

Filter.—No. 2126.—F. H. Atkins, of Fleet Street, London. Improvements in apparatus for filtering water and other liquids. Dated April 26, 1883.

Generating and Applying Electricity.—No. 1895.—R. V. Ash, of Marylands Road, St. Peter's Park, London. Improvements in the method of generating and applying electricity for medicinal or other purposes, and in the means employed therefor. Dated April 14, 1883.

Gum Tragacanth.—No. 1833.—A. C. Duncan, of Manchester. Improvements in the treatment and preparation of the substance known as gum tragacanth. Dated April 17, 1883.

Ice, &c.—No. 1727.—W. R. Lake.—A communication from S. B. Hunt, of New York, and F. E. Pinto, of Brooklyn, both in New York, United States. An improved process to be used in the manufacture of ice, and for other cooling or refrigerating purposes. Dated April 6, 1883.

Infusions.—No. 2217.—W. F. Thompson.—A communication from J. C. Grant, of New York. Improved process and apparatus for making infusions of coffee and other beverages. Dated May 1, 1883.

Injector.—No. 2160.—O. Imray.—A communication from A. R. Larger, of Paris. An improved apparatus for surgical injections. Dated April 28, 1883.

Membranes for Eliminating Micro-organisms.—No. 2087.—C. D. Abel.—A communication from F. Dreyer, of Vienna. Improvements in membranes or media for eliminating micro-organisms from liquids and gases, and in the method of and apparatus for the manufacture of such membranes or media. Dated April 24, 1883.

Metallic Oxides.—No. 2055.—H. A. Bonneville.—A communication from L. C. E. Fauchaux, of Loos, France. A new or improved process for manufacturing metallic oxides or bases. Dated April 23, 1883.

Oxide of Strontium, &c.—No. 2259.—W. Moody, of West Ham, chemist. Improvements in the manufacture of oxide of strontium and hyposulphite of the alkalis. Dated May 3, 1883.

Paint.—No. 1683.—A. M. Clark.—A communication from the Leeds Manufacturing Company, of Brooklyn, New York, United States. An improved composition of matter to be used as a paint or dye. Dated April 3, 1883.

Protecting Contents of Bottles, &c.—No. 2186.—E. P. Alexander.—A communication from C. Cheswright, of Paris. A new or improved mode or method of protecting or preventing fraudulent interference with the contents of bottles and similar receptacles. Dated April 30, 1883.

Remedying Physical Defects of the Mouth, &c.—No. 1729.—R. H. Brandon.—A communication from C. J. Bing, D.D.S., of Paris. Improvements in the construction and fixation of apparatus remedying physical defects of the mouth and palate. Dated April 6, 1883.

Tanning Material.—No. 1691.—W. R. Lake. A communication from A. Badoli, of Paris. An improved tanning material and method of obtaining the same from the asphodel plant. Dated April 4, 1883.

Teeth.—No. 2304.—J. Bentele, of Munich, Bavaria. Elastic sets of teeth. Dated April 21, 1883.

- Salicylic Acid, &c.**—No. 2119.—W. L. Wise. A communication from Dr. W. Hentschel, of Dresden. Improvements in the manufacture of salicylic acid, producing also alcoholic phenates. Dated April 26, 1883.
- Stopping Bottles.**—No. 1770.—W. R. Lake—A communication from C. G. Hutchinson, of Chicago, Illinois, United States, Improvements in bottle-stoppers and in machinery or apparatus for facilitating the use of the same. Dated April 17, 1883.
- Stopping Bottles, &c.**—No. 1798.—N. Thompson, of Brooklyn, New York, United States. Improvements in stoppers or covers for bottles, jars, and other hollow articles. Dated April 10, 1883.
- Stopping Bottles, &c.**—No. 1942.—N. Thompson, of Brooklyn, New York, United States. Improvements in stoppers or covers for bottles, jars, and other hollow articles. Dated April 17, 1883.
- Stopping Bottles, &c.**—No. 2171.—J. Jackson, Jun., of Lorn Road, Eriton, London. An improved stopper for bottles and jars. Dated April 30, 1883.
- Stopping Bottles.**—No. 2176.—R. J. Sankey, of South Hill, near Ashford, Kent. Improvements in stoppering bottles for containing airtight or caustic liquids. Dated April 30, 1883.
- Sulphuric Acid.**—No. 1673.—W. Garraway, of Glasgow, manufacturing chemist. Improvements in apparatus to be used in the manufacture and concentration of sulphuric acid. Dated April 3, 1883.
- Surgical Belt, &c.**—No. 2083.—C. B. Harness, of Holborn Viaduct, London. An improved surgical belt and bed-stay. Dated April 24, 1883.
- Ulm-brown.**—No. 2009.—H. J. Haddan. A communication from La Banque Industrielle de Belgique, of Paris. New or improved processes for the manufacture of ulm-brown. Dated April 20, 1883.
- Vaseline.**—No. 1817.—W. P. Thompson. A communication from H. & M. Böhm, of Vienna. Improvements in and connected with the manufacture or rectification of vaseline. Dated April 10, 1883.

Specifications published during the month:—
Postage 1d. each extra.

1877.

- 3734*. The Badische Aniline and Soda Fabrik. Colouring matters. (Disclaimer and memorandum of alteration.) 4d.

1882.

3516. H. Hides. Construction of surgical supports, splints, &c. 6d.
3631. W. Morgan-Brown. Manufacture of amber varnish. 6d.
3789. E. A. Brydges. Oxidising alcohols, &c. 8d.
3835. P. and F. M. Spence. Alum and other salts of alumina. 4d.
3854. J. Ferguson. Bottles for airtight waters, and stoppers for same. (Not proceeded with.) 2d.
3910. R. Edwards. Substitutes for starch, &c. (Not proceeded with.) 2d.
3917. C. Lowe and J. Gill. Compounds for disinfecting, &c. 4d.
3932. W. Astrop and R. Ridgeway. Fireproof liquid compound. 2d.
3977. D. Urquhart. Manufacture of ammonia, and purification of shale oils. 4d.
3987. H. Kenyon. Utilisation of galvanisers' flux, &c., in the manufacture of zinc paint, &c. (Not proceeded with.) 2d.
3994. A. Hedley. Manufacture of mottled soap. 2d.
3997. C. D. Abel. Manufacture of solid cumidine, and production of diazocumole, &c., for use in preparation of azo colours. 4d.
3999. G. Johnson. Recovery of caustic soda or potash employed for the extraction of arsenic from copper precipitates. (Not proceeded with.) 2d.
4017. H. J. Haddan. Manufacture of hydrate of glucose from starch. 4d.
4028. E. Perrett. Filters and apparatus for cleansing the same. 6d.
4037. H. J. Haddan. Stoppers for bottles, cans, &c. 2d.
4048. F. Wirth. Manufacture of a blue coloring matter. 4d.
4057. E. P. Alexander. Manufacture of ammonia and bonblack. 6d.
4072. J. F. C. Targuier and W. Oldham. Filtering apparatus. 6d.
4083. D. Cole. Apparatus for opening bottles containing airtight liquids. (Not proceeded with.) 2d.
4106. C. F. Claus. Manufacture of printing ink, &c. 4d.
4107. C. F. Claus. Manufacture of white pigments, alkalies, &c. 4d.
4108. C. F. Claus. Preparation and use of porous silicious materials for filtering acid and other liquids, &c. 4d.
4123. Mary Richards. Filters. (Not proceeded with.) 2d.
4131. C. F. Claus. Manufacture of silicate of zinc, lead, baryta, and strontia. 4d.
4144. W. L. Wise. Manufacture of caustic potash and soda. 4d.
4163. A. M. Clark. Filters. 6d.
4166. J. Mayer. Apparatus to facilitate the impregnation of air or vapour with antiseptic matters. (Not proceeded with.) 2d.
4181. N. Thompson. Stoppers for bottles, jars, &c. 6d.
4195. E. Edmonds. Hair restorer. (Not proceeded with.) 2d.
4206. S. A. Darler-Gide. Warming, purifying, disinfecting, and mectating air for inhaling. (Not proceeded with.) 2d.
4212. J. H. Johnson. Production and treatment of carbonised material, &c. 4d.

4214. J. Forbes. Apparatus used in the manufacture of ammoniacal and other chemical salts. 6d.
4224. W. R. Lake. Manufacture of starch. 6d.
4226. W. Green. Manufacture and treatment of soaps. 4d.
4273. N. Mac, J. Rapp, and H. W. Herbot. Portable case for disinfectants, perfumes, &c. 6d.
4276. R. Irvine. Treatment of retene for obtainment of anthracene, &c. (Not proceeded with.) 2d.
4318. H. Wigful. Bottle-stands. (Not proceeded with.) 2d.
4333. W. R. Lake. Apparatus for facilitating the dispensing or drawing of effervescent liquids. 6d.
4349. A. L. Nolf. Apparatus for producing chloride gas and metallic sodium from chloride of sodium. 6d.
4364. W. L. Wise. Manufacture of caustic alkalies, &c. 4d.
4389. J. T. Rawley. Stopping bottles, jars, &c. 6d.
4410. J. H. Drayton. Bottles, jars, &c. (Not proceeded with.) 2d.
4411. G. W. Von Nawrocki. Regenerating peroxide of manganese from the residue obtained in the manufacture of chlorine. (Not proceeded with.) 2d.
3773. J. Murray. Sulphites and bisulphites for bleaching purposes. 6d.
3858. D. Watson. Treating solutions used for purifying copper ores. &c. 2d.
3863. R. Nicholls. Deodorising and purifying human excreta for manual purposes. 6d.
4590. A. J. Lawson and H. L. Sulman. Treating soap lyes to recover glycerine, &c. 4d.
5407. J. Wetter. Filters. 4d.

Miscellaneous.

THIRTEEN AT TABLE.—The statistical probability of the superstition that if thirteen sit down to table one of them will die in the course of the following twelve months is given in a French paper, from which it appears that the chances are that if the average age of the company is—

10 years there ought to be ..	134	45 years there ought to be ..	90
15 " " " ..	131	50 " " " ..	73
20 " " " ..	129	55 " " " ..	54
25 " " " ..	124	60 " " " ..	35
30 " " " ..	119	65 " " " ..	25
35 " " " ..	112	70 " " " ..	17
40 " " " ..	103	7½ " " " ..	13

persons present to make the realisation of the theory scientifically likely.

THE PREVENTION OF CONFLAGRATIONS.—In consequence of the destruction of so many valuable buildings by fire, the Committee of the Royal College of Physicians has deemed it prudent to improve the security of their college in Pall Mall East, which contains a library and a museum of the greatest importance to the profession, as well as a large number of highly valuable pictures, &c. At the request of the Committee, Messrs. Merryweather & Sons, the well-known fire engineers, of Long Acre, made a careful survey of the premises, and reported their recommendations; after which it was decided that the opinion of Captain E. M. Shaw, C.B., of the Metropolitan Fire Brigade, should be also taken; and, in accordance with the suggestions of these experts, we learn that Messrs. Merryweather & Sons have been directed to furnish the College with their system of high-pressure fire-extinguishing appliances. Upon each floor a length of light waterproof hose with nozzle attached will be coupled to a hydrant and hung so that any person can stretch out the tube and cause a powerful extinguishing stream to be ejected upon any fire in less than a minute after its discovery; while a number of buckets will be hung upon each floor, ready to be used on the first sign of fire; and in addition there will be supplied handy portable fire-pumps, by means of which a person can, unaided, pump a stream of water high enough to strike the ceiling of each floor with considerable force, and thereby command such points as would be inaccessible by water thrown from buckets on account of smoke, heat, light, or other causes. These buckets and hand-pumps will be continually full of water, and available for instant application upon any fire that may be discerned at the moment of its occurrence, so that extensive water damage may be avoided, while the hydrants and hose will be in reserve for the attack of flames which may have been suffered to gain a firm hold of a room or two.

Exchange Column.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of *THE CHEMIST AND DRUGGIST*, and all correspondence relating to it must be addressed to the "Publisher of *THE CHEMIST AND DRUGGIST*, Colonial Buildings, Cannon Street, London, E.C., the envelope to be endorsed also with the number. The Publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

Deposit of Money.—In order to ensure safety we offer the following system:—The purchaser of anything advertised in the Exchange Column may remit the amount to us. We shall acknowledge receipt to both parties by post-cards, and shall only pay it away on the advice of the remitter. Whether returned to him or paid to the seller, we charge a commission of 6d. on any transaction of 3s. or less, or 1s. if above that amount.

Dental and Surgical.

Dentist's lathe for disposal, cheap. C. P. L., 34 High Street, Putney.

Drugs and Chemicals.

1 cwt. remnant honey for oxymel, &c., 3d. per lb., or exchange for oil cistern, drums, &c. Kemp & Son, Horncastle.
One hundredweight effervescing saline, 11d.; 1 cwt. oil male fern, 10-lb. tins, 7s. 1b.; samples on application to B. G. L. & Co., 11 Edmund Place, Aldersgate Street, E.C.

Proprietary Articles.

Offers wanted for patents, &c., to be sold cheap; list sent on application. 26/19.
Barrow Evans' hair restorer, 12 doz.; offers, or exchange whole or part. 30/34.
Six dozen Bradbury's fly-powder, cheap, for cash, or will exchange. 32/26.
12 doz. Bradbury's dipping powder, 6 doz. carbonic solution, 6 doz., foot-rot lotion, 1s. size, 6s. doz. Moule, Redditch.
Surplus stock of patent medicines and proprietary articles for disposal. List on application to H. Jowett, 181 Manchester Road, Bradford.
About six dozen of the most saleable patents, no bad stock, wrappers perfect; 14 lbs. Mumford's starch powder; 1 lb. ferri carb. each., 3 oz. pot. trypsin, opt. Will exchange for recent reliable medicinal and veterinary works, Homeopathic Pharmacopœia, &c. Robinson, Chemist, Ealing.

Optical.

A stock of A. Bennett's spectacles (new) for sale or exchange. 29/3.
Herbert & Godfrey's (Druiff & Druiff's) spectacles, half invoice price. Kendal, Blyth.
A saleable stock of Herbert & Godfrey's spectacles; cheap for cash, or offers. List from J. H. Adams & Co., Stoke-upon-Trent.

Apparatus.

Excellent ice-refrigerator, good condition, 4 feet long, 3 feet high, cost 14l., will take 3l. Atkinson, Chemist, Tyne-mouth.
"Simplissimus" pruting-press, with type-cases, &c., equal to new; prints 12 by 8. Ellis, Chemist, Southampton.
D'Or's No. 2 light and power battery, in perfect order; what offers? Galbraith, Chemist, Glasgow.

Pinder's pill machines, one quite new; one with rollers; three and five grins; bargains. "Chemist," 207 Queen's Road, Peckham, London.

New 620-gallon tinued-iron vat, 10L, or offer, 3-inch brass hung, 1-inch tap, 58 inches diameter. Apply at Cale Street Distillery, Chelsea, S.W.

A two-cell galvanic battery in case, two single-cell ditto, two electro-magnetic machines, D'Or's electric light, few pairs double-spring crutches; offers wanted in cash or exchange. For particulars address The Willows, Buxton.

A galvanised-iron oil-cistern, holding about 40 gallons, in perfect condition and nearly new, cost 38s.; what offers? Also one of York Glass Company's displacement apparatus, as fig. 63 Maw's catalogue, size four pints; what offers? Apply, W. J. White, Chemist, London Street, Reading.

Educational.

Set of illegible autograph prescriptions (original), 2s. 6d., as presented to the Pharmaceutical Society of Ireland for their examinations; 30 prescriptions (catch and difficult) gives to dispense at Minor during past 12 months, 2s.; 50 questions asked of successful students at last Minor, 1s. 1d.; lot of cheap, almost new books. Stamp for list, Saunders, 130 Camden Road, N.W.; note change of residence.

Literature.

Chemist and Druggist, from 1872 to 1883 inclusive, in good condition, price 50s. 30/31.

Bentley's "Botany," new, 8s. 32/3.

Pharmaceutical Journal from 1865, in yearly volumes; what offers? S.B. 23 Strickland Gate, Kendal.

Dickson's "Chrono-Thermalist" for 1850; also Dickson's "Fallacy of Art of Physic." Percy Wells, 50 Elgin Crescent, W.

9s. per volume, *Pharmaceutical Journal*, from commencement, 6 or 8 volumes, bound; a few of volumes imperfect. 5/31.

Hayward's "Botanist's Pocket-book," good as new, 3s. 2d., published at 4s. 6d.; 1st vol. (half-year) "Knowledge," 2s. 6d. W. Coles, 14 Cedar Terrace, Richmond, Surrey.

Pharmaceutical Journal from Dec., 1877, to July, 1882; "Scientific Recreations"; "Universal Instructor," vols. 1, 2, and part 3, all unbound, unsold, and complete, cheap, cash or exchange. Moule, Redditch.

Attfield's "Chemistry," Willis' "Botanical Companion," Willis' "Botanical Dictionary," Willis' "Prescriptions," and 50 Minor questions for 10s. 6d. "Chemist," 1 North Street, Keighley.

Jarmain's "Qualitative Analysis," 11 numbers "Veterinarian" (1878), 5s.; Tully's "Herbarium"; Cassell's "Family Magazine," 2 vols., in numbers, 1879 to 1881. Bowers, 17 Trafalgar Place, Stoke, Devonport.

Volumes (41) of *Pharmaceutical Journal*, well bound and as new, with indexes and original introduction by Jacob Bell; these contain all that has been published by Society up to July, 1882. 15 Truro Road, St. Austell.

Willis' 10s. 6d., "Materia Medica," Willis' "Elements of Pharmacy" (6s. 6d.), Willis' 2s. "Handbook to Analysis," Willis' 1s. "Decimals and Metric System," Willis' 6s. *Materia Medica Cabinet*, price 25s., the lot; deposit. N.B.—Willis' "Lectures," which cost 1l. 1s., are copied on the inter-leaves, and the remainder in book will be given to the purchaser of the above. J. Meadows, Chemist, Normansfield, Hampton Wick, Middlesex.

Chemist's small library. Full particulars and prices by letter only, no post cards, to H. Brunton, 13A Dean Street, Soho, London, W.

Chemist and Druggist, 1868 to 1870, and 1872 to 1881; "Pharmaceutical Conference Book," 1865 to 1869; what offers. Tooley, 409 Moseley Road, Birmingham.

Soda-water Plant.

Twenty cases Apollinaris water, quarts, 18s. per case. Day & Co, Hemic Hill.

American-principle machine, second-hand, by Davenport; 300 dozen daily; 20l. Particulars, N. G. Wilcocks, Bath.

Soda-water machine by Mondolot, Paris, second-hand, 15l.; as good as new. At N. G. Wilcocks, Bath.

Second-hand soda-water plant—several in stock. Address, Bratby & Hinchliffe, Sandford Street, Ancoats, Manchester.

Barnett & Foster have some second-hand soda-water machinery of their own for sale. Apply, 237 Forston Street, Shepherds Walk, London, N.

50l., all at.—Second-hand engine, boiler, lead generator, copper gauges, Bramah pump, big condenser, gauges, filling machine for corks, ditto patents; seen at work by appointment. Particulars, N. G. Wilcocks, Bath.

Soda-water machine, generator, gasometer, &c., complete; maker, Wilcox, Bath; hand or power, in good condition, would suit small trade or beginner; fitting up larger machinery; will sell cheap, and give accommodation if wanted. Miller & Co., Walworth Road, London.

Shop Fittings.

A great bargain, the complete fittings of a first-class chemist's shop. 31/5.

Four show-carboys, in good condition, four or six gallons, cut stoppers, with or without stands. Particulars and lowest price, Hart, Chemist, Southwick, Durham.

Handsome show-jar, York Glass Company No. 4, carb. soda, 38 inches high, cost 7l. 2s. 6d.; will take 50s. Dr. Connolly, Bruff, co. Limerick.

Nests drawers, show-hotdies, specie-jars, glazed cases, shop bottles and jars, store-bottles, lamps and bottles, counters, various other articles, all cheap, to clear out; also about 20l. worth of various drugs, in small quantities of each; stamp for list. Lowe, 846 Old Kent Road, London.

Pair of best dispensing-scales, brass pillar-beam and balance, glass pan, on polished mahogany stand, with drawer and weights, as No. 7 Maw's catalogue, new, unsold, price 15s. 6d.; fly-papers, 4s. 6d. per 1,000. Halford, Chemist, New John Street West, Birmingham.

Extraordinarily handsome window enclosure, all complete, 10 feet long, 5 ft. high; has two sashes sliding on rollers, looking-glass one side, and finest Spanish mahogany the other, looking-glass at end, price 15l.; also two 10-gallon carboys and mahogany stands, cheap. Deacon, Beckenham, Kent.

16-ft. run mahogany-fronted fixtures, drawers with lockers under, mahogany top to drawers, two silvered plate-glass cupboard doors between shelves and cornice over, a 12-ft. do. do. fixture, as Maw's fig. A. 84; 2 ft. long, 4-ft. long, 6-ft. long, 8-ft. long, 10-ft. long, 12-ft. long mahogany-fronted drawers, glass knobs and glass labels (bevelled-edge), with lockers for bottles under; 4-ft. high, 4s. per foot run, inclusive of mahogany top to drawers. E. Natali, 207 Old Street, near Pitfield Street, London.

Anyone having surplus fittings, drug drawers, shelving, desks, scales, dispensing screen, lamp, drawers for under counter, &c., they wish to dispose of, may forward particulars and price to $\frac{1}{2}$, 50 Union Street, Torquay, Devon.

An 11-ft. mahogany wall-case, 4 ft. 6 in. high; 5 ft. 6 in. ditto, ditto, made on the air-tight principle, 6 ft. 6 in. high; a ditto, ditto, 6 ft. 6 in. long, 6 ft. 6 in. high; 5 feet high by 6 ft. high ditto, ditto; 5 ft. by 3 ft. 8 in. high; 3 ft. 10 in. long by 4 ft. high; 10 ft. long, 2 ft. 3 in. high; 11 ft. by 4 ft. high; a 17-ft. run mahogany wall-case, with mahogany cupboards under; a 5-ft. ditto, ditto, both 9 ft. high; 7 ft. 6 in. long by 2 ft. 3 in. high; 4 ft. long, 3 ft. high; also a number of small upright cases, from 20 in. long, 2 ft. long, 3 ft. long, &c. E. Natali, 207 Old Street, E.C.

Dispensing screen, 6 ft., handsome tablet in centre, 90s.; ditto, 6 ft., mirror, case on each end; ditto, 4 ft., mirror, case on each end, 6d. 10s.; ditto, 7 ft., mirror, case on each end, 10d.; ditto, 8 ft., mirror, case on each end, 12d.; ditto, 3 ft., 6s.; ditto, 4 ft., 6s.; wall-cases, 4, 5, 6, 7, and 8 ft. long, and 9 ft. high, 4s.; desk and case, 2 ft. long, 2 ft. high; brush-case, 30s.; brush, 3fs.; desk and screen, 36s.; long desk to stand in front shop, cost 38s.; shop of fixtures, 12 ft. square, all 20d.; ditto, 14 ft. square, 22d.; ditto, 16 ft. square, 26s.; one-door case to stand before desk, 31s.; long bench front case, 8 ft. long, 16 in. wide, worth 10d., 120s.; a lot of large globes and specijars, large R. Tomlinson, St. Paul's Square, Birmingham.

Dispensing screens, 5 ft., 6 ft., 7 ft., glass case at each side, with silvered glass centre, with marble slab in front, silvered plate glass centre, with carved wood on top, 3 ft. high, the cases at each side plate-glass doors, with tablets on top, inside case fitted with silvered glass and shifting shelves, 8d. 10s.; as fig. A 53, 5 ft. 6 in. long, 8 ft. long, 7 ft. 6 in. long; as fig. A 54, 4 ft. long; as fig. A 55, 5 ft. long, 6 ft. long, 7 ft. 6 in. long; sponge-cases, A 41, 65s.; A 43, 5d.; a centre-case, 8 ft. long, 5 ft. wide, mahogany, 10d., worth double; a number of other size screens and cases, very cheap. E. Natali, 207 Old Street, near Pitfield Street, London, E.C.

20 ft., 18 ft., 14 ft., 8 ft., 7 ft., 6 ft., 5 ft. mahogany-top counters fitted with drawers; 12-ft. mahogany-fronted counter; 6-ft. mahogany-fronted counter; two 10-ft. side-counters, fitted with drawers and cupboards, suitable for store-room; 14-ft. mahogany and plate-glass frosted counter; 7 ft. do. do.; 7 ft. 6 in. long, 5 ft. 6 in. high, mahogany and glass cupboard; 5 ft. 6 in. long, 5 ft. wide counter, fitted with drawers; a quantity of shelving, cupboard-doors, &c., suitable for fitting store-rooms, a bargain. E. Natali, 207 Old Street, near Pitfield Street, London, E.C.

Plate glass counter-case, as fig. A 2, 3 ft. long, 4 ft. long, 4 ft. 6 in. long; as fig. A 3, 3 ft. long, 40s.; 3 ft. 6 in. long, 45s.; as fig. A 6, 4 ft. long, 5 ft. long, 6 ft. long; as fig. A 7, 3 ft. 6 in. long, 6 ft. long; as fig. A 8, 5 ft. long, 6 ft. long; as fig. A 13, 4 ft. long, 7 ft. 6 in. long; fig. A 15, 6 ft. 6 in. long, 7 ft. 6 in. long; fig. A 16, 8 ft. 6 in. long, 8 ft. 6 in. long; fig. A 17, 4 ft. and 4 ft. 6 in. long; 14 ft. 5 ft. 6 in.; 6 ft. 7 ft.; 7 ft. 6 in. 8 ft., 9 ft., 10 ft.; toothbrush-cases, 9, 35s.; A 10, revolving front, 50s.; desk and cases, fig. A 50, 2 ft. 6 in. long and 3 ft. long; A 31, 65s.; cigar-cases, A 34; bottles, jars, specijars, carboys, &c., bargains. E. Natali, 207 Old Street, near Pitfield Street, London, E.C.

Second-hand stock.—Mahogany counter-case, circular plate-glass tops, with upright case, plate-glass shell reflectors, as Maw's A 4, 42 in. long, 25 in. wide, 23 in. high, no carving, &c.; next 40 mahogany-fronted drug-drawers, deal lockers, and caseboard, 94 in. long, 48 in. high, 31 1/2 in.; two elegant mahogany carboy-pillars, carved caps, ditto columns, 49 in. high, 16 in. bases, 7 1/2 in. Spanish mahogany dispensing screen, three pilasters, and Mines' plate-glass sashes, tablets own make, 107 in. long, 23 1/2 in. high, 7 1/2 in. 10s.; mahogany external doors, plate-glass shutters and fanlight, 88 1/2 in. high, 48 in. wide, 31s.; mahogany shop-front sash for four squares, 139 in. long, 11 1/2 in. high, 30s.; 37 6-quart black uprights, 28s. 6d.; 21 1-gallon ditto, 10s. 6d.; 26 3-pint rounds, 16s.; 6 quart syrups, 6s. W. Hawke & Son, Wild Court, Great Wild Street, London.

Formulae.

My formula for lavender water, guaranteed equal to Sainsbury's, costing about 2. 6d. per lb., forwarded for 2s. 6d. postal order (not filled in). H. Lloyd, Broomthampton, Totnes.

Satisfaction guaranteed.—Recipes of genuine preparations in actual commerce: "Entirely New Toothache Remedy" gives instant ease, non-poisonous, no injurious to other teeth; "Nigerine" jet-black, waterproof patent blacking, cheaper and better than Nubian, contains oil, improves the leather; "Digestive Relish," most appetising sauce in creation, mellow, piquant, costs 3s. 6d. gallon; "Lupuline Bitters," the king of vegetable tonics, vastly superior to the much-advertised hop bitters; "Foaming Dentifrice," resembles Floriline, one-eighth cost, exquisite odour; "Red-rose Lotion" (recipe of Erasmus Wilson), removes freckles, sunburn, tan, &c., keeps well; "Rheumatic Embrocation," best and surest cure for gout and all rheumatic pains, costs 7d. lb.; "Tonic Hair Lotion," cleanses the head, strengthens hair, cooling, not oily; "Amygdalene Balm," more elegant, superior, and less costly than any glycerine balm in the market, quite innocent, non-sticky; "Crypt-zymosis," certain, speedy cure for gleet—this injection is warranted to cure long-standing cases, a guaranteed preventive; "Campholyde," external specific for neuralgia, rapid in action and cleanly; "Hair-restorer" (sine sulphur), clear solution and sweet, may be honestly recommended; "Lavender Water" (West end recipe), equals Sainsbury's in aroma and durability of fragrance; "Occasional Pills" (for ladies), physician's prescription, preferred by many to Welch's; "Stomach-corrector" (Dr. Taylor's), pleasant tasting, mild aperient, adaptable to children and adults; "Conservative" compound powder like Glacialine, preserves milk, butter, meat, &c., cheap; "Essence for Deafness," simple, non-injurious, quickly relieves; "Quinine and Iron Tonic" (resembles Pepper's), excellent, bright, and unchangeable; "Worm Syrup," purely vegetable, nice taste, pleasant action, and certain; "Mist. Gonorrhoea" (copaiba), radical cure, nauseous taste masked, presentable appearance, quickly made; "Toilet Vinegar" (like Rimmel's), most refreshing, quarter price; "Corn-eradicator" (resembles Hargreave's), warranted most excellent, never known to fail; "Mollipona," for tender feet and offensive perspiration, curative and disinfectant. Recipes 1s. 1d. each, 3p. for 5s., free, with full instructions for making and all particulars. Detailed printed lists post free. T. Brooks, Chemist, Louth, Lincs.

Speed drinks for calves, best ever known; condensation powders for horses, never-failing remedy; chiblain liniment, electric cure; gonorrhoea emulsion, not disagreeable, 1s. each; inseparable lime cream and glycerine, specially recommended, 5s. "Chemicals," Mr. Taylor, Skelley Forest, near Mansfield.

Gonorrhoea in all its stages and complications, successful treatment, 2s. 6d.; also, primary, secondary, and tertiary syphilis, 2s. 6d.; menthol concs. relieves toothache, tic, neuralgia, and sciatica instantly; Parrish's chemical foot, syrup hypophosphites (equal to Fello's), 1s. 6d. each. Address, "Surgeon," Hebburn-on-Tyne.

Fragrant foaming dentifrice (like "Floriline"), marking ink, sine silver (auiline), writing executed defies chemicals; effervescent fruit salines (resembles Euc's); magio neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); lime-juice and glycerine (inseparable, white as milk); blue-black ink (non-corrosive, sine iron or galls); cherry tooth paste (never ferments, like Gosnell's); brilliantine (inseparable, like Rimmel's); pill-coating, (pearly white, no mangle or mastic used); glycerine jelly (perfectly transparent); crimson marking ink; hair-restorer (colourless, no deposit, sine silver); aromatic vinegar; toilet vinegar (as Rimmel's); plate-powder (like Stevens' "Silicon"); Oleum Flavianum Conc., for pomades (colour stable); soluble essence ginger (like Hay's); corn solvent, clear (not acid); liquor copaliba comp. c. buchu et matico (mixes clear with water); gonorrhoea paste, excellent (Dr. Ricord's); taraxacum and podophyllin (resembles Pepper's); with many others; send stamp for list, stating wants. The toilet preparations are identical with those prepared by a wholesale West-end firm; others equally good; all inexpensive to make; 6s. each (five for 1l.). Readers are cautioned against cheap and worthless imitations. I was first to advertise formulae in this journal. Note change of residence, "Analyst," care of Mr. Barnes, 130 Camden Road, N.W.

Miscellaneous.

Eight oil-pipes, 120 to 200 gals. each, good condition, 12s. 6d. each. Kemp & Son, Horn-castle.

Original 11 shares in Chemists' Admited Water Company; offers sold, Slack, 132 Clarendon Road, Nottingham Hill.

Three medicine chests, containing respectively 26, 20, and 14 bottles, all complete; prices, 40s., 35s., and 20s., cheap. 3s. 1s. Braithwaite Road, Birmingham.

Offers wanted for S. & J. porous rubber al-besire, yard, half-yard, mustard plaster, strengthening, arnica, capsicum, in boxes, 2s. 3d.; Mollat's oil lint, H. B. Condy's aromatic vinegar, 4oz. Andrew, 538 Eyles New Road, Epsom.

Fruit Essences.—Apricot, 4s.; cherry, 4s.; pear, 2s. 3d.; raspberry, 3s. 6d.; strawberry, 3s. 6d.; ginger, soluble (Hay's), 3s. 6d.; black currant, 3s. 6d.; peppermint, 6s.; red currant, 3s. per lb. in Winchester quarter, finest condition, from first-class maker, satisfactory reasons given, a real bargain. Vaughan, 21 Wittington Road, Manchester. Electric bell wire, &c., half price; Hooper's water-bed, little used, one fourth cost; mahogany desk, with drawers underneath, 24 by 30, 15s.; tea-mill, little used, 15s.; good guitar, with instructions, 10s.; patent air-pistol, 25s., cost 35s.; large iron postle and mortar, 6s.; quantity of thermometers, 30 per cent. off cost; Crown perfumery, &c., at considerable reduction. W. Webb, Post Office, Shaftesbury.

WANTED.

inure-press. Casely, Camden Town.
 cod-liver oil. Send sample, Andrew, 538 Eccles
 New Road, Eccles.
 Samuel Moore & Co.'s bronchial cigarettes;
 state quantity and price. Macfarlane
 Chemist, Wishaw.
 Good second-hand dental chair, cheap, Owen's
 preferred; also, round chemist's lamp-glass,
 half ruby and half blue, cheap. Rose, New
 Brighton.
 Paraffin pump, with measuring apparatus.
 Morgan, Chemist, Greatbridge, Tipton.
 Set of scaling and stopping instruments; also
 a tooth-mirror, Maw's fig. 3 preferred.
 Chas. Thompson, Sparkbrook, Birmingham.

Chemist and Druggists' Diary for 1881. B.,
 25 Cheapside, Boston.
 Cheap empty glycerine and castor-oil tins, good
 condition. Kemp & Son, Horncastle.
 Latest edition "Art of Perfumery," by Piesse;
 state prices. B. Wood, New Pelton, Halifax.
 In exchange for books or cash, good second-
 hand dispensing-scales, in box. 15 Truro
 Road, St. Austell.
 Chemist and Druggist for January and February,
 1880. George Robertson, 17 Warwick
 Square, London, E.C.
 Pinder's pill machine; full particulars, condi-
 tion, and lowest price. Heald, Burnham,
 Bucks.
 Wills' "Materia Medica" and "Pharmacy," and
 Chemist and Druggist. Bowers, 17 Trafalgar
 Place, Stoke, Devonport.

Selecta & Prescriptis, Pharm. Latin Grammar
 British Pharmacopoeia, Bentley's "Mannual,
 Botany," Lindley's "School Botany," Royle's
 "Manual of Materia Medica." W. E. Foss,
 Broadway, Worcester-shire.
 Chemists and Druggists' Diary for 1881; will
 give cash, or exchange for Nuttall's Dictio-
 nary of Scientific Terms, cloth, red edges,
 published at 5s.; also a work on "Functional
 Derangements," as new. Address, "Alpha,"
 care of Publisher, 42 Cannon Street, E.C.

ADDRESSES AND INFORMATION WANTED.

Present address of Mr. Wallace Pringle, late of
 Swansea, organist, now supposed to be living
 in Devonshire.

Trade Returns.

THE Board of Trade Returns for April do not offer any
 very striking feature. The totals show an increase of
 nearly 6 per cent. in the imports as compared with April,
 1882, being valued at 38,094,181L this year, and 36,079,207L
 last year. Generally, the increases are in breadstuffs, such
 as corn, butter, tea, meat, and potatoes; while a decrease is
 shown in the imports of raw materials for manufacturers,
 such as cotton, flax, wool, &c. We exported in the month
 goods to the value of 18,442,000L, while in April, 1882, the
 value was 18,373,262L, a difference of scarcely $\frac{1}{2}$ per cent.
 The exports of chemicals compare as under with those of
 April, 1882:—

	April, 1882	April, 1883
Alkali.. .. .	cwt. 523,992	.. 574,028
Ditto .. .. .	.. value £180,739	.. £170,919
Chemical products .. .. .	.. " £178,425	.. £165,397

THE PROSPECTS OF CINCHONA.

We (*Tropical Agriculturist*, Ceylon) have received from
 a reliable source some information which we deem of con-
 siderable importance to our cinchona planters. The Euro-
 pean capitalists who started cinchona plantations in South
 America (having secured the services of Mr. Thomson, for-
 merly of Jamaica, as their manager) have already lost faith
 in the success of their enterprise, so great is the cost of
 and carriage and so many are the obstacles—war not the
 east—in the pursuit of their undertaking. Coming back
 to our own hemisphere, to Java, we have good authority for
 saying that manufacturers of quinine in Europe are raising
 great objections to bark from Java as containing so much
 resin that it is next to impossible to get the quinine white.
 Some of it has been crystallised *seven times*, and even then
 could not be got white. Of course each crystallisation
 means a loss of alkaloids, besides extra expense and labour.
 With ordinary bark, the second crystallisation is nearly
 always sufficient. It is also stated that Java bark never
 lives so show! to the manufacturer as the analyses sent home
 with it show! All these are facts which go to some extent to
 mitigate the rivalry of Java with our Ceylon and South
 Indian barks. It is quite possible that our poorer soils may
 be better adapted to produce a good manufacturing bark
 than the much richer volcanic soil of Java.

MINCING LANE, May 12, 1883.

Since our last issue we have to report a dull market, with
 declining values, for most of the more important articles
 sold in Mincing Lane. The improvement which commenced
 1st January continued until the middle of April, when it
 suddenly ceased, the trade demand fell off, and speculators
 losing confidence, the improvement which had taken place
 was lost. This dullness was due in a great measure to the un-
 favourable weather, giving no hopes of a good harvest to
 relieve the agricultural depression which undoubtedly pre-
 vails, and the reduced spending power of the country. We
 anticipate, however, an improvement will take place after
 the Whitsun holidays: there are already signs of encourage-
 ment, especially in the drug trade, where a more cheerful

spirit is shown, the last public sales showing animation,
 with a fair business doing at full rates. Aloes were in good
 demand, rhubarb was firmer, castor oil remains steady, cod-
 liver oil sells at firm prices; camphor, notwithstanding the
 large deliveries and improved statistical position, remains
 neglected, and closes at lower rates, Japan offering at
 67s. 6d. Japan wax, being in short supply and very cheap,
 was bought for speculation, about 1,000 cases (a third of
 the stock) changing hands at 44s. 6d. and closing at 48s.
 per cwt. In chemicals the home trade demand has been
 poor; acids close lower; on the Baltic, prices have lately
 ruled in buyers' favour.

The first public sales of drugs which we have to notice
 were held on Thursday, April 19, at the New Corn Exchange,
 and consisted of seventeen catalogues; there was good com-
 petition, and a fair amount of goods sold. We give particulars
 of the most important sales, in conjunction with a few
 private transactions, viz.:—

ESSENTIAL OILS.—*Star Aniseed* is rather firmer, with
 sales at 7s. 9d. spot, and about 100 cases for arrival at 7s. per
 lb. c.i.f. *Cassia*.—More demand, with sales at 4s. per lb.,
 3d. dearer. *Hotchkiss' Peppermint* sells freely at 12s. per lb.;
 Hale & Parshall's, 11s. 6d. per lb. *Lemon Grass*.—Large
 speculative purchases have been made at 1 $\frac{1}{2}$ d. per oz., and
Citronelle at 1 $\frac{1}{2}$ d. to 1 $\frac{3}{4}$ d., but without affecting the market;
 we expect an improvement shortly, as the present low prices
 are not satisfactory to makers or shippers.

ALOES.—East India Socotrine at 6L Curacao.—30 boxes
 sold from 50s. to 100s. per cwt.

BARK.—*Cascarilla*.—180 packages at 20s. 6d. to 23s. per
 cwt.; 150 serons *Cassaya*, 1s. 8d. to 2s. 5d.; 140 bales Crown
 and grey, 9d. to 1s. 7d. per lb.

BUCHA LEAVES.—20 bales short broad green at 5d. per lb.

CAMPHOR.—China: 250 cases, new import, at 65s. per
 cwt., a decline of 2s. 6d. per cwt.

CANTHARIDES.—China: 2 cases at 2s. 8d. per lb.; the
 stock is low, with a good demand.

CASTOR OIL shows a slight improvement; the stock now
 shows a considerable reduction for the last few days. A fair
 amount of business has been effected at 4 $\frac{1}{2}$ d. for first quality,
 water white, and 3 $\frac{1}{2}$ d. to 3 $\frac{3}{4}$ d. for fair and good seconds.

COD-LIVER OIL maintains a high value, which is likely to
 continue; good Norwegian is held for 12s. per gallon. Japan,
 in cases, still meets with inquiry, principally for mixing,
 at 5s. 3d. per gallon, and 6s. in casks. If more care is taken
 next season in preparing this oil, we think it will become a
 great rival to the northern oil.

CHIRETTA.—24 bales at 3 $\frac{1}{2}$ d. to 4d. per lb.

CARDAMOMS.—50 cases Mangalore, 1s. 8d. to 6s. 11d. for
 fine bold pale; good plump Ceylon, Malabar sort, at 6s. 1d.
 to 6s. 4d.; Ceylon, long pods, at 2s. 1d. to 2s. 2d. per lb.

ERGOT OF RYE.—50 packages: Spanish, 1s.; Russian, 7 $\frac{1}{2}$ d.
 per lb.

CIVET.—One horn at 6s. 6d. per oz.

GAMBOGE.—8 cases at 15L 17s. 6d. per cwt.

HONEY.—50 packages Jamaica: middling to fine yellow
 at 32s. to 38s. 6d. per cwt.

JALAP.—15 bales Vera Cruz at 1s. per lb.

MUSK.—Tonquin is much quieter. Pile 1 sold up to 80s.; pile 2, 41s.; and pile 3, 26s. per oz.; 6 tins Assam at 37s. to 42s. 6d.

RHUBARB is in good demand and rather dearer. Good Shensi root, mixed sizes, 2s. 1d. to 3s. 4d.; dark fracture, 1s. 10d.; Canton, round and flat, 1s. 10d.; high-dried, 1s. 1d. to 1s. 4d. per lb.

ROOTS.—Colombo, 40s. per cwt.; Colombo root-wood, a spurious quality referred to in our last issue, 350 bags sold "without reserve" at 1s. per cwt.; 10 bales *Seneka* at 2s. 3d. per lb.; 2 bales *Snake* at 1s. 2d.; and 2 casks fine-scraped Venetian *Orris* root sold up to 51s. per cwt.

SENNA.—Only a few lots sold: Alexandrian broken leaf at 8d. per lb.

VANILLOES.—225 tins sold at firm rates: fine crystallised at 20s. to 28s.; ordinary, 8s. to 17s. per lb.

WAX, BEES', is in good demand at full rates: Jamaica, 5l. 17s. 6d. to 7l. 2s. 6d.; Australian, 6l. 2s. 6d. Japan *Vegetable Wax* is 2s. per cwt. dearer, and higher prices are expected, as the stock is very small.

The second series of public sales was held on Thursday, May 3, the most important sales being as follows:—

Alaea.—Good Socotrine at 7l. 2s. 6d.

Ambergris.—Weak flavoured at 71s.; common, 19s. per oz.

Bark.—Crown, fair, 9d.; good fair, 1s. 9d. per lb.

Camomiles.—Very depressed. Fair ordinary quality, 48s.; brown, 21s. to 24s. per cwt.

Camphor.—Very dull; sellers of Japan at 70s., re-weights; and China, 65s. per cwt.

Cassia Fistula.—150 bales at 8s. to 9s. per cwt.

Gamboge.—1 case at 17l. 2s. 6d. per cwt.

Gum Arabic.—Australian, good, 24s. to 25s.; 10 bales Turkey sorts, 59s.; low dusty, 33s. per cwt.

Assafetida.—20 cases at 60s. to 70s. per cwt.

Benjamin.—2 cases Siam, false packed, 23l.; Sumatra, firsts, 10l. 10s.; dark seconds, 6l. 15s. to 8l. 17s. 6d. per cwt.

Guaicum.—Fair lump at 1s. to 1s. 9d. per lb.

Myrrh.—Good sorts, 6l. 5s.; siftings, 5l. 7s. 3d. 5s. per cwt.

Honey.—Jamaica, fine yellow, 41s. 6d.; dark, 33s.; brown Cuban, 26s. per cwt.

Ipecacuanha.—Good, 3s. 4d. to 3s. 5d. per lb.

Matico.—15 bags dark low at 2s. per lb.

Musk met with more inquiry, and sold up to 96s. for good quality, pile 1; 2 caddies Yunnan sold at 50s. per oz.

Cod-liver Oil.—11 casks Norwegian at 11s. 6d. per gallon.

Castor Oil is in better demand, and higher prices are probable, fair seconds selling at 3½d. per lb.

Rhubarb is dearer for good qualities, some fine Shensi root realising 4s. 4d. per lb.; grey fracture, 3s. 4d.; Canton, fair bold, 2s. 5d.; high-dried, 7d. to 1s. 2d. per lb.

Roots.—Colombo lower: 300 bags sold at 20s. to 40s. for common to good. *Seneka*.—Three sales at 2s. 3d.; *Rhatania*, common, 1½d. per lb.

Senna.—Tinnevely, good quality, sold at 7d.; fair, 4½d.; common, 1½d. Alexandrian, 10 packages, from 3d. to 7½d. per lb.

Soy.—China, 50 casks before the sales, good quality, at 1s. 7d. per gallon.

Tamarinds.—West India at 12s. 6d.; East India black, 14s. per cwt.

Wax, Bees', sells readily at firm rates; 70 packages sold.

BAK.—At the public sales held on Tuesday, April 24, very little business resulted in the room, of 5,000 packages catalogued only about 200 bales being sold, viz., good Calisaya quilla, 4s. 2d.; Cuprea, 1s. 10d.; fair red, 2s.; good stout Succubra, 3s. 3d. to 3s. 7d.; bold slightly, druggists' sort, 3s. 5d.; fair, 2s. 3d.; a parcel of fine stout Officialis taken out at 5s.; 20 bales medium quality and broken sold at 3s. 6d.; ordinary, 2s. 10d. per lb.

CINCHONA PREPARATIONS.—An entirely new feature in the trade was introduced by a public sale of 16,000 oz.

sulphate quinine, held at the London Commercial Sale Rooms, Mining Lane, on Friday, May 4, by Messrs. Lewis & Peat, "without reserve" and "for account of whom it may concern." There was a large attendance of wholesale druggists, and it sold with good competition at the following prices, showing a decline of 4d. per oz.:—5,000 oz. Howard's make, 7s. to 7s. 2d.; 2,000 oz. Whiffin's, 6s. 3d. to 6s. 4d.; tins containing 100 oz. each, 5s. 10d. to 5s. 11d.; 6,500 oz. German, in tins, 5s. 9d. to 5s. 10d.; 2,500 oz. Italian, 5s. 9d. to 5s. 11d. per oz. In our yearly report, published in January, we referred to the important transactions which had taken place in cinchona bark. A powerful syndicate had combined to buy and work this speculation in England, America, and the Continent, and the time agreed upon having expired their goods had to be sold, both in London and elsewhere; therefore, on the same day, public sales of quinine were held in Dresden, Paris, and New York, the total quantity being over 100,000 oz., which all sold at about the same decline, relatively, as the London sale. It is remarkable that this syndicate, with such large buying and holding powers, were quite unable to stem the downward tendency of bark and quinine—their aggregate turnover is reported to have exceeded 2,000,000 sterling. When this syndicate first began operations they undoubtedly forced quotations up; but these had to give way, and prices for bark and quinine close fully 25 per cent. lower than the highest point reached. The following prices are ruling on the market for cinchona preparations, viz.:—

Quinine.—Howard's, 7s. 4d. to 7s. 6d.; Pelletier's, 7s. 2d. to 7s. 3d.; German, 6s. 3d.; Milan, 6s.

Cinchonidine.—British, 5s.; sulphate, 2s. 11d.; German and Italian, 2s. 9d.

Cinchonine.—British, 2s.; muriate, 1s. 2d.; sulphate, 9½d. to 11½d.

Quinidine.—British, 7s. 6d.; sulphate, 5s. per oz.

CHEMICALS have been in more request, with a fair business throughout.

Soda Crystals in active demand at 63s. 6d. per ton ex ship; *Ask* steady, at 1½d. less, 7 to 8; *Caustic*, a good shipping demand at 9s. 3d.; Tyne, 7s. 1½d. per cwt.

Sulphate of Ammonia is very slow at 16s. 6d. grey, and 18s. for best white.

Tartaric Acid.—A fair business doing at 1s. 8½d. for English, and 1s. 7½d. for foreign.

Citric is not quite so strong, there being ready sellers at 1s. 8½d. per lb.

Cream Tartar is quoted 130s. for good white; brown, 99s. per cwt., f.o.b. Naples, for 71 per cent.

Oralite quiet, with sellers at 6d., less 7 to 10 per cent. discount.

Arsenic steady, with fair sales at 10s. 9d.

Sal Ammoniac.—Fair business doing at 44s. to 45s. per cwt.

Sulphate of Copper remains dull at 20s. 6d. per cwt.

Flour of Brimstone is in more demand at 10s. 6d. to 12s. 6d.; roll, 9s. to 10s.

Chlorate of Potash is less inquired for, and is obtainable at 5½d. to 5½d. per lb. *Prussiate*: fine make, 10½d.; ordinary, 9½d. per lb. *Bichromate*, fairly steady at 5d. per lb., less 3 per cent.

Bleaching-powder.—A steady business at 7s. landed.

Borax remains without alteration, at 59s. net cash, and 63s., less 2½ discount, for lump, with fair business passing.

Sugar of Lead.—Few transactions; white foreign, 26s. per cwt.

Quicksilver has again been reduced to 5l. 10s. for Spanish, with sellers at 5l. 9s. for second-hand parcels, less 3 per cent. discount.

Shellac is again lower, the statistics proving unfavourable. The stock is heavier, while the shipments from Calcutta to U.K. are very heavy, being 7,400 cases for April, with a probable delivery of about 6,000 cases, the closing values being 7l. for fine orange; 6l. for fine second; ordinary quality, 4l. 5s. to 4l. 10s. Garnet declined from 80s. to 72s. In button sorts the demand is limited, with sellers at 90s. for fine black; good coloury thirds, 68s. to 80s.; genuine dark, 62s.

Lac Dye.—To show the thorough badness of this market, sales have been made at 1s. per chest of 2 cwt., all at, costing originally 3d. to 4d. per lb.

Stichlac.—This article is still used in fair quantities for dyeing purposes, producing a bright magenta; value, 48s. per cwt.

Turnerie.—Bengal sells slowly at 16s. 9d. per cwt.

Cochineal.—Very little business is reported, although the market remains strong, the late advance being well maintained.

Safflower.—Small sales are effected at fair prices.

SPICES.—*Pepper*.—The market showed considerable weakness a fortnight back, but the statistics proving favourable, a good speculative demand set in, and values advanced ½d. per lb. About 8,000 bags spot sold up to 6½d., and for arrival 200 tons up to 6½d. for Singapore black; about 1,000 bags white sold up to 9½d. The present high rates are fully warranted by the favourable position of the article.

Cassia Lignea is very dull in the face of a large production. There appear to be large quantities available when the London market improves; value, 35s. 6d. per cwt.

Cassia Buds appear to be less used than ever; there is no consumptive demand.

Arrowroot.—1,711 barrels St. Vincent in public sale met with a good demand, selling at 2½d. to 3½d. for ordinary quality; good, 4d.; fine, 6d. per lb.

Tapioca.—Flake is lower again; fair ordinary can be bought at 1½d., and yet at this low figure there is scarcely any inquiries; really fine qualities are offering at 1½d. to 1½d.

Chillies are more inquired for after the late important decline in value. Good Zanzibar bright small sold in public sale at 52s. 6d.; this quality was selling at 95s. a few months back.

Cloves have been in more request after declining from 9d. to 7d. Considerable sales have been effected, about 2,000 bales being sold up to 7½d. per lb.

Pimento is dull, the sales being unimportant.

Sago meets with only a limited demand, values being very low, small pearl, fair and bright, selling at 13s. 9d. to 15s. per cwt.

On the Baltic the markets generally are quieter, in sympathy with the quietness which has prevailed elsewhere.

Linsced.—Prices have ruled, more or less, in buyers' favour. *Rapeseed* is dull, with small sales. *Poppysced*: The last sale reported is at 43s. 6d., 200 tons.

OILS.—*Linsced*.—Moderate sales at 20l. 15s. *Rape* is very dull, and declined 1½l. per ton. English refined, spot, is quoted at 37l. 10s. *Crude Cotton* is 10s. dearer, with a better demand. *Olive* is less inquired for, and holders show a disposition to make sales at easier rates. *Cocoonut* remains very steady at the present high rates, and is likely to continue so, as it is in strong hands. *Palm*.—No sales are reported; quotations nominal. 3,000 cases *Japanese Fish Oil* (part of a recent import of 12,000 cases) were put up for auction, and sold at 25l. per ton. A new feature in this trade with Japan has been the import of fish oil wax, which meets with favour among the consumers, selling at 20l. to 20½l. for fair to good white. It is supposed to be compressed foots, the high pressure giving it the consistency of wax.

Turpentine.—Large arrivals by steamer have depressed the market, causing a decline of 4s. 6d. per cwt. The stock also is large, being 15,270 barrels, against 9,200 barrels last year.

Petroleum Oil is steadier, at an advance of ¼d. per gallon. Stock, 242,000 barrels, against 206,000 barrels last year.

ANOTHER REPORT.

MINCING LANE, May 12, 1883.

Trade generally has shown but little improvement since our last report, and in fact in many branches has become worse, several articles amongst spices and the finer sorts of chemicals having fallen off in value, without any increased demand resulting.

This may be partly accounted for by the lack of spring trade caused by the remarkably backward season we are now experiencing. New York advices prove business to be in the same position there.

In our January report we had occasion to refer to the adulterated drugs appearing from time to time upon the

London market, and we now find it necessary to do so again. Nor is the evil confined to drugs alone, for there is little doubt that chemicals are alike abused, not so much for use here, where, as a rule, we are too wide awake to be so taken in; but the principal victims are our colonial customers, who are led away by abnormally low quotations, and, instead of lodging their orders, as they used to do, with the first-class London druggists at a fairly remunerative price, now place them too often elsewhere, and are supplied in return with adulterated articles. Drugs and chemicals in powder are particularly liable to "manipulation," and our advice to our friends abroad is "buy drugs whole and unground, and acids &c., in crystals, as far as possible."

Japan was fearfully imposed upon in this way, until the Japanese Government found it absolutely necessary to establish the laboratory which now scrupulously examines all drugs and chemicals going into the Empire, and it would be well if such scrutiny existed everywhere abroad.

With articles of medicine, upon a proper administration of which the very life of our fellow creatures depends, the subject of adulteration is of far greater importance than in matters of food.

ACIDS.—*Tartaric* has gone back in value, foreign being obtainable at 1s. 7½d. per lb.; English at 1s. 8½d.; and at these figures there is but a poor demand.

Citric has also lost the firm position we mentioned in our last report, and stands now at the same price as English tartaric, i.e., 1s. 8½d. At equal value citric will always be preferred to tartaric where of equal use, but we believe in such articles as baking powder citric acid cannot be used in place of tartaric.

Oxalic.—Very quiet at 6d. per lb.

ALOES are slightly better in tone. *Cape* at 50s. to 55s., whilst 60s. is asked for some fine *Natal*. *Hepatic* in skins, 6l. 7s. 6d. to 6l. 10s. *Socotrine*, 7l. 2s. 6d. per cwt.

ALUM is in fair demand at 6l. per ton for lump, and 6l. 10s. ground in bags.

ANTIMONY.—Some fine Japan crude in bags was bought in at last public sales at 25l., but the same or similar quality is readily obtainable packed in cases, which are far preferable, at 23l. per ton.

Antimony Regulis.—Lower at 40l. to 41l. per ton.

ARSENIC is firm; powder, 10s. 9d. per cwt. landed.

BALSAMS are without demand at slightly lower prices *Capeivi*, 2s. 4d.; *Peru*, 11s. 6d. for good quality; *Tolu*, 2s. 2d. to 2s. 3d. per lb.

BARK.—Notwithstanding the large sales of quinine which had taken place in New York, Paris, and London, upon the previous Friday, the sales of bark held last Tuesday went off with a very dull tone, prices if anything being a trifle easier all round. We believe that in time the supply will become diminished, but when it is impossible to say. Many of the plantations in Ceylon, anxious to show a return upon the capital which has been sunk in them, have been premature in their sendings of bark to London; hence the amount of poor stuff now offering, and the result of such recklessness can but be very injurious to the future of these undertakings.

BLEACHING POWDER is a trifle easier at 6l. 15s. per ton, with the demand not so strong as it was.

BORAX.—A fair average trade doing at unchanged prices of 59s. per cwt. net, up to 63s. less 2½ per cent., according to make.

CALUMBA ROOT is in a worse position, and no less than 515 bags were offered in last sales, of which 294 bags were sold at very low figures, ranging from 20s. to 41s. per cwt.

CAMOMILE FLOWERS are easier: fine white at 4l. to 5l.; medium, 3l. to 3l. 10s.; and old brown flowers about 50s. per cwt., with a slightly improved, but still small, demand. Some sold without reserve at less than last sales.

CAMPHOR.—*Japan raw*, without change at 72s. 6d. per cwt. *English refined*, 1s. 1d. per lb. in bells, and finest *Foreign* makes 1s. per lb. in 5-lb. saucers. A fair trade doing.

CARDAMONS.—Finest sorts maintain values, but there are more inferior kinds now offering.

CHIRETTA may be said to be without a market at present. In last sales 10 bales were put up and bought in at 6d. per lb.

SAFFRON.—Pure Valencia qualities are worth 42*s.* to 47*s.* per lb. Alicante, harmlessly loaded sorts, 25*s.* to 30*s.* per lb. In last public sales an article described as saffron,

was sold at 14s. per lb., or just one-third the price of cheapest Valencia.

SALICINE.—Easier at 7s. 6d. per lb.

SANTONINE.—12s. 6d. per lb.

SODA.—Crystals firm at 3l. 4s. per ton exship, with a fair trade doing. *Caustic*: a moderate export inquiry; prices, cream, 9s.; white, 60 to 62 per cent., 9s. 3d. per cwt.

BICARBONATE.—Steady at 7s. 9d. to 8s. per cwt., landed.

The following notes are from Messrs. GEHE & Co.'s April report:—

Aloes.—Cape aloes fluctuated very considerably during the past year, the quotations for finest quality being in January, 1882, 48s., when, supplies becoming rare, the price rose to 87s. 6d. in June. Large quantities being then thrown on the market caused a reduction to 46s., which, however, in the beginning of this year again rose to 56s., and the article being again scarce, a farther rise is expected.

Almonds.—Depressed the whole year through, owing to rich harvests in Sicily. At the beginning of March of this year, however, reports of damages by frost in France, Spain, and Italy produced a good deal of excitement, causing a rise of 25 per cent. for Sicilian and Italian almonds, the quotations for Barbary sweet almonds being 62s. 6d., and for bitter 56s. Time only can show whether the damage really effected justifies these high prices.

Balsam of Peru.—The high prices brought about, partly by insufficiency in supply and partly by speculation, have at last given way to more moderate quotations, the quotation for Spanish balsam being now about 10s. per lb. The adulteration of the article, especially in Bremen, is as active as ever.

Camphor.—Depressed under the influence of large imports. Japanese camphor, which has of late formed the chief source of the raw article, is of an oily consistency, causing loss in refining.

Cloves.—The high prices of the last few years have given way, and, although the quotations, in spite of fluctuations caused by speculation, were 8½d., 8¼d., and 9d. per lb. in March of this year, the nominal price is now 7½d., and a further reduction is expected.

Cassia.—Depressed and still on the decline, the quantity at present on hand being sufficient for more than a year's demand.

Castor.—Canadian castor has retained its high position. In December the prices were: Per prima, 35s. 6d.; secunda, 30s.; tertia, 27s. 6d.; and commonest, 24s. Siberian castor has decreased about one-half in value against former years.

Mineral Wax.—Owing to mismanagement, the production of ozokerite in Austrian Galicia has declined considerably during the last two or three years, and a sophisticated article very often dictates the price.

Isinglass.—Prices for Russian isinglass high, with a still higher tendency, due to the lawless way in which the fisheries are carried out. American isinglass in demand.

Cinchona.—Having passed through every stage of fluctuation, the present prices for bark are very nearly on a level with the lowest quotations of 1881, and in face of the large stock in hand, as well as the security of a sufficient supply of good bark in the future, an upward tendency can hardly be expected.

Saffron.—Although the harvest in Spain was a good one, speculation and obduracy of the Spanish peasants have kept prices pretty level. Adulteration is prevalent.

Cubebs have fluctuated a good deal. The prices were:—At the beginning of last year, per ton, 7l. 15s.; March, 10l. 10s.; August, 12l.; October, 15l. to 20l. A reduction then took place to 7l. 10s. in December. The present year began with 8l. 10s., and, in spite of new imports, the present quotation is but little below 8l. New plantations in Java have, to all appearance, brought more into the market.

Tonquin Beans.—The last year's excellent harvest in Angostura brought large quantities to the ports of Hamburg and New York, the consequence of which has been a considerable reduction in price, which has at the same time rendered the Para and Surinam sorts comparatively valueless.

Arnica Flowers.—Up to the present depressed; recent demands from America will, however, probably soon clear the stock on hand.

Galls.—The bad harvest in China in 1881 reduced the importation to such an extent that even the arrival of the 1882 crop caused no sudden reduction in price. The stock is still very limited. Prices, 67s. 6d. to 70s.

Gum Arabic.—This article, which before the Egyptian War was very depressed, rose in the course of last summer 10s. per cwt., but again declined on the reopening of trade with Alexandria. Owing to rumours of rebellious movements in Kordofan, quotations are momentarily on the rise.

Musk.—The imports of Tonquin musk were very small indeed last year, and the continued demand for this perfume has absorbed even old stocks. The article is almost priceless, and reports from China continue unfavourable.

Anise Oil.—Quiet: the last crop of seeds was plentiful, but deficient in quality.

Oil of Star Anise.—At the beginning of last year depressed, now quiet, but no further depression is to be at present expected, since the stock in China is scanty.

Cod-liver Oil has of late years become a dear article, and it seems probable that it will become still dearer. The fisheries of 1881 were bad enough, but those of the past year were even worse, and the livers were so poor that they yielded but about about one half of the ordinary average. Seal-oil is now sought for for admixture with cod-liver oil, and as this sophistication cannot be detected by chemical means, caution in purchase is suggested.

Oil of Peppermint.—Crops, both in England and America, were bad last year, but nevertheless, the tendency to rise which showed itself in the summer did not develop, since plenty of old stock in America was on hand. These reserves have, however, diminished, and a rise may be expected before long.

Otto of Roses.—But a very small quantity from last year's small harvest is in stock, and from reports from the Balkan mountains it seems probable that prices will go very high.

Essential Oil of Mustard.—Very low, and offered at prices under the manufacturing costs.

Opium has on the whole been quiet, especially as regards Asiatic and Turkish kinds. In the Western provinces of China, opium is now extensively cultivated. Other countries are also finding out that opium culture is lucrative, and Servia produces an opium containing 9 per cent. of morphia.

Sabadilla Seeds.—The rise of 40 per cent. during the last few weeks appears to have been due to speculation, and it is supposed that a good deal of stock has been kept back in Venezuela. Should this, however, not be the case, a further rise may be expected.

Benzoic Acid.—There is no change in the price of acid obtained from the gum. The artificial product from toluol has, however, advanced, owing to the raw material having got dearer. Benzoic acid, ex urina, is extremely depressed, and it seems likely that its manufacture will be entirely given up.

Citric Acid has been quieter than usual last year. A good deal of business was done at the latest quotations of 1s. 9d. per lb., but a rise is expected.

Tartaric Acid.—An upward tendency, which at the end of the year amounted to an advance of 10 per cent. from the quotations at the beginning, was followed at the beginning of this year by a slight fall.

Ether and Alcohol.—The low prices at the beginning of last year gave way in July to higher quotations, which continued on the increase till November, when they reached the maximum. Since then prices have remained firm.

Potassium permanganate was subjected last year, twice over, to a reduction in price, said to have been brought about by the present manufacturers to prevent the creation of new works.

Morphia.—A good opium crop, rich in alkaloids, has reduced the price 25 per cent.

Indigo.—Hot, dry weather modified the aspects of last year's indigo crop, which was, however, notwithstanding, 10 per cent. better than that of 1881. The artificial-indigo panic has given way to more tranquil views, the indigo farmers feeling convinced that Nature can work cheaper than Art.

Essential Oils:	Last Month		This Month	
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
Almond	25	0 to 30	30	0 to 6
Anise-seed, German ..	7	6 .. 7 8	7	7 .. 7 8
" , star ..	7	7 .. 14	8	0 .. 14
Bergamot	7	0 .. 10	7	0 .. 10
Cajeput	2	3 .. 3 6	3	3 .. 0
Caraway	5	0 .. 5	5	0 .. 0
Cassia	3	8 .. 3 9	3	10 .. 0
Cinnamon	1	0 .. 3 6	1	9 .. 2 6
Cinnamon-leaf	0	31 .. 0	0	3 .. 0
Citronelle	0	12 .. 0 15	0	12 .. 0
Clove	5	0 .. 5 3	5	3 .. 0
Juniper	1	6 .. 2	1	7 .. 0
Lavender, Exotic ..	1	6 .. 8 6	6	9 .. 8 6
" Mitcham ..	180	0 .. 0	130	0 .. 0
Lemon	6	0 .. 8	6	0 .. 8
Lemongrass	0	12 .. 0	0	12 .. 0
Neroli	5	0 .. 0	7	0 .. 0
Nutmeg	0	61 .. 0	8	0 .. 0
Orange	8	0 .. 11	12	0 .. 0
Otto of Roses	25	0 .. 40	30	0 .. 38
Patchouli	1	6 .. 2 6	1	4 .. 2 6
Peppermint:				
American	12	0 .. 12	3	6 .. 13 6
(H. G. Hotchkiss) ..	12	0 .. 0	12	0 .. 0
English	32	0 .. 34	35	0 .. 0
German	6	0 .. 15	8	0 .. 15
Japan	7	0 .. 9	7	0 .. 9
(Roskings)	12	0 .. 0	11	0 .. 0
Rosemary	2	6 .. 3	2	6 .. 9
Sassafras	2	6 .. 0	2	6 .. 0
Spearment	12	0 .. 14	12	0 .. 14
Thyme	2	0 .. 2 6	2	6 .. 0
Mace, expressed ..	0	14 .. 6 2	0	2 .. 0
OPUM	11	0 .. 14	12	0 .. 15
Inferior	6	0 .. 75	6	0 .. 65
QUASSIA (bitter wood) per ton	6	0 .. 0	6	0 .. 0
RUBARB, China, good and fine	2	9 .. 4	2	9 .. 4
Middling to fair ..	1	0 .. 2 6	1	0 .. 2 6
ROOTS—Columba	45	0 .. 55	42	0 .. 0
China	10	0 .. 20	20	0 .. 0
Cust	20	0 .. 22	20	0 .. 21
Galangal	20	0 .. 26	26	0 .. 28
Gentian	18	0 .. 21	21	0 .. 0
Oris	25	0 .. 50	23	0 .. 50
Pellitory	45	0 .. 60	42	0 .. 60
Rhatany	1	6 .. 2	1	6 .. 0
Rhatany	2	0 .. 2 6	2	6 .. 2 6
Snake	1	2 .. 1 6	1	6 .. 0
SAFFRON, Valencia	46	0 .. 51	47	0 .. 50
Alcant	25	0 .. 30	25	0 .. 30
SANTAL, Lima	1	0 .. 1	0	6 .. 1
Guayquil	1	0 .. 1 5	1	2 .. 5
Honduras	1	0 .. 1 5	1	3 .. 1 5
Jamaica	1	4 .. 0	1	3 .. 2
SASSAFRAS	0	0 .. 0	0	0 .. 0
SACAMONY, Virgin ..	31	0 .. 35	32	0 .. 35
Second and ordinary ..	15	0 .. 30	15	0 .. 28
SENNA, Bombay	0	2 .. 1 2	0	2 .. 1 2
Tinnivelly	0	2 .. 1 2	0	3 .. 1 2
Alexandria	0	8 .. 1 6	0	9 .. 1 6
SPERMACEET, refined ..	1	3 .. 0	1	3 .. 0
American	0	10 .. 0	0	11 .. 0
SQUIDS	2	11 .. 0	1	1 .. 0
GUMS.				
AMMONIAC, drop	2	0 .. 3	3	0 .. 0
ANIMI, fine washed ..	15	0 .. 20	18	0 .. 20
" ..	8	0 .. 13	8	0 .. 13
ARABIC, pale picked ..	1	1 .. 2	1	10 .. 2
" ..	1	6 .. 1	1	10 .. 0
TURKEY, pick, do. to fin. second & inferior ..	3	10 .. 4	2	5 .. 7
" ..	2	5 .. 2 15	2	0 .. 2 10
ASSAFETIDA, cm. to fin. ..	0	15 .. 4	0	15 .. 4
BENJAMIN, Siam, 1st ..	12	10 .. 45	16	0 .. 30
" 2nd ..	1	10 .. 13	2	10 .. 12
Sumatra	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
COPAL, Manila	25	0 .. 52	25	0 .. 52
DAMBAR, pale	145	0 .. 152	145	0 .. 152
EUPHORBIA	17	6 .. 20	17	0 .. 35
GALBANUM	0	6 .. 1	0	3 .. 0 10
GAMBOGE, picked pipe ..	290	0 .. 320	280	0 .. 320
GUAJACUM	0	9 .. 1	0	9 .. 2
KINO	60	0 .. 50	45	0 .. 0
KOWRIE, selected	90	0 .. 220	90	0 .. 220
MASTIC, picked	2	6 .. 3	2	9 .. 8
MYRRH, good and fine ..	200	0 .. 230	200	0 .. 230
" ordinary to fair ..	80	0 .. 140	80	0 .. 140
OLIBANUM, p. drop ..	34	0 .. 45	40	0 .. 45
" amber & yellow ..	49	0 .. 45	45	0 .. 0
SANDARAC	90	0 .. 120	90	0 .. 110
SERRALLO, Orange	85	0 .. 150	80	0 .. 140
" ..	80	0 .. 81	82	0 .. 0
TRUS	25	0 .. 35	25	0 .. 0
TRAGACANTH, leaf ..	200	0 .. 360	200	0 .. 250
" in sorts	60	0 .. 240	0	0 .. 180

OILS.	Last Month		This Month	
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
SEAL, pale	37	0 .. 0	36	0 .. 0

Oils —(cont.)	Last Month		This Month	
	£	s.	£	s.
SEAL, yellow to tinged .. per ton	22	0 to 36	35	0 to 0
brown	30	0 .. 0	33	0 .. 0
SPERM	71	0 .. 72	73	0 .. 0
COD	36	0 .. 0	36	0 .. 0
WHALE, South Sea, pale ..	32	0 .. 34	33	10 .. 0
yellow	31	0 .. 0	31	0 .. 0
brown	26	0 .. 0	30	0 .. 0
Sardine	25	0 .. 26	25	0 .. 0
OLIVE, Seville	36	0 .. 37	38	10 .. 39
Gloja	0	0 .. 0	38	0 .. 37
Levant	35	10 .. 36	36	0 .. 0
Mogador	35	0 .. 0	35	10 .. 3
Spanish	37	0 .. 0	35	0 .. 0
Sicily	37	0 .. 38	37	0 .. 0
COCONUT, Cochiti	38	0 .. 38	38	10 .. 0
Ceylon	34	10 .. 35	35	0 .. 0
Mauritius	35	0 .. 35	35	0 .. 0
PALM, fine	42	0 .. 0	44	10 .. 0
LINSEED	21	0 .. 21	20	10 .. 21
RAPESEED, English, pale ..	40	10 .. 4 15	37	10 .. 0
brown	39	0 .. 0	35	0 .. 0
COTTONSEED	28	10 .. 29	30	0 .. 0
LARD	62	0 .. 62	65	0 .. 0
TALLOW	26	0 .. 47	25	0 .. 47
TURPENTINE, American per cwt.	40	0 .. 0	34	6 .. 0
PETROLEUM, refined .. per gall.	0 6 1/2 .. 0 6 1/2	0 6 1/2 .. 0 6 1/2	0 7 .. 0 7	
Spirit	0 7 .. 0 7 1/2	0 6 1/2 .. 0 6 1/2	0 7 .. 0 7	
SEEDS.				
CANARY	65	0 .. 85	65	0 .. 83
CARAWAY, English	0	0 .. 0	0	0 .. 0
German, &c. ..	23	0 .. 23	23	0 .. 26
CORIANDER	10	0 .. 21	10	0 .. 21
HEMP	55	0 .. 40	34	0 .. 0
LINSSE, English	0	0 .. 0	0	0 .. 0
Black Sea & Azof ..	42	6 .. 43	43	6 .. 0
Calcutta	44	6 .. 44	43	6 .. 0
Bombay	44	6 .. 45	43	0 .. 0
St. Petersburg ..	39	0 .. 41	39	0 .. 41
Mustard, brown .. per bushl.	12	0 .. 15	10	0 .. 15
white	9	0 .. 14	8	0 .. 14
POPPY, East India .. per qr.	45	0 .. 0	43	0 .. 0
SPICES.				
CASSIA, LIGNEA	36	0 .. 37	35	6 .. 0
Vera	25	0 .. 27	24	0 .. 28
Buds	40	0 .. 42	40	0 .. 41
CINNAMON, Ceylon:				
1st quality	0 11 .. 2 5	1 0 .. 2 5	1 0 .. 2 5	
2nd do.	0 8 .. 1 11	0 8 .. 2 0	0 8 .. 2 0	
3rd do.	0 8 .. 1 6	0 9 .. 1 9	0 8 .. 1 9	
Tellicherry	0	0 .. 0	0	0 .. 0
Chips	0 2 1/2 .. 0 4 1/2	0 2 1/2 .. 0 5	0 2 1/2 .. 0 5	
CLOVES, Pong	0 1 1/2 .. 1 10	1 7 .. 1 10	1 7 .. 1 10	
Amboyna	0 10 .. 0 11	0 10 .. 1 1	0 10 .. 1 1	
Zanzibar	0 8 1/2 .. 0 8 1/2	0 7 1/2 .. 0 7 1/2	0 8 1/2 .. 0 8 1/2	
GINGER, Jam, fine .. per cwt.	50 .. 180	48 .. 190	48 .. 190	
Ord. to good ..	48	0 .. 90	48	0 .. 90
African	38	0 .. 39	39	0 .. 40
Bengal	35	6 .. 33	38	0 .. 0
Malabar	0	0 .. 0	0	0 .. 0
Cochin	40	0 .. 100	45	0 .. 112
PEPPER, Black, Malabar per lb.	0 6 1/2 .. 0 6 1/2	0 6 1/2 .. 0 6 1/2	0 6 1/2 .. 0 6 1/2	
Singapore	0 6 .. 0 6	0 6 .. 0 6 1/2	0 6 1/2 .. 0 6 1/2	
White	0 9 1/2 .. 0 10 1/2	0 9 1/2 .. 0 9 1/2	0 9 1/2 .. 0 9 1/2	
Cayenne	0 7 .. 1 4	0 7 .. 1 3	0 7 .. 1 3	
MACE, 1st quality ..	1 8 .. 2 3	1 7 .. 2 3	1 7 .. 2 3	
2nd and inferior ..	1 6 .. 1 7	1 4 .. 1 7	1 4 .. 1 7	
NUTMEGS, 78 to 80 lb.	2 10 .. 3 9	2 10 .. 3 9	2 10 .. 3 9	
90 ..	2 9 .. 2 10	2 9 .. 2 10	2 9 .. 2 10	
132 ..	2 3 .. 2 6	2 0 .. 2 6	2 0 .. 2 6	
PIMENTA	0 32 .. 0 4	0 32 .. 0 4	0 32 .. 0 4	
VARIOUS PRODUCTS.				
COCHINEAL—				
Honduras, black .. per lb.	1 2 .. 0 0	1 4 .. 1 6	1 4 .. 1 6	
" .. silver ..	0 1 .. 0 0	1 2 .. 1 5	1 2 .. 1 5	
Mexican, black ..	1 1 .. 0 0	1 2 .. 1 5	1 2 .. 1 5	
" .. silver ..	1 0 .. 0 0	0 9 .. 1 0	0 9 .. 1 0	
Tenerife, black ..	1 2 .. 1 4	1 1 .. 1 5	1 1 .. 1 5	
" .. silver ..	1 1 .. 0 0	1 0 .. 1 2	1 0 .. 1 2	
GALLS, Tky blue	50	0 .. 60	50	0 .. 60
China	62	0 .. 0	62	0 .. 0
INDIGO, Bengal	1 6 .. 6	1 6 .. 6	1 6 .. 6	
Madras	2 0 .. 5 6	1 6 .. 6 9	1 6 .. 6 9	
Kurpah	1 9 .. 5 6	2 0 .. 5 6	1 9 .. 5 6	
Oude	1 9 .. 5 6	1 9 .. 5 6	1 9 .. 5 6	
Guatemala ..	3 0 .. 6 6	3 0 .. 6 6	3 0 .. 6 6	
ROBIN, American .. per cwt.	28	0 .. 10 6	5 6 .. 11 0	
SOA, Castile	1 7 .. 0 0	2 4 .. 0 0	2 4 .. 0 0	
SOY, China	1 7 .. 0 0	1 7 .. 0 0	1 7 .. 0 0	
WAX, BEES, English .. per cwt.	£8 0 .. £0 0	£0 0 .. £0 0	£0 0 .. £0 0	
Jamaica ..	5 10 .. 7 0	6 7 1/2 .. £17 1/2	6 7 1/2 .. £17 1/2	
East India ..	7 0 .. 7 10	6 10 .. 7 0	6 10 .. 7 0	
VEGETABLE, Japan ..	2 3 .. 6 6	£3 7 .. £3 8	£3 7 .. £3 8	
Paraffin	0 31 .. 0 31	0 31 .. 0 31	0 31 .. 0 31	
WOOD, DYER, Bar .. per ton	3 10 .. 0	£3 10 .. £0 0	£0 0 .. £0 0	
Brazil	18	0 .. 40	15	0 .. 40
Cam	17	0 .. 30	16	0 .. 30
Fustic, Cuba ..	0	0 .. 0	0	0 .. 8
Java	5	6 .. 10	5	6 .. 10
LOGWOOD, Campeachy ..	7	0 .. 9	8	0 .. 0
Jamaica ..	5	0 .. 6	6	10 .. 0
LIMA, first pile ..	10	0 .. 0	10	0 .. 0
RED SANDARS ..	6	0 .. 0	6	0 .. 0

EXPORTS OF DRUGS AND CHEMICALS.

Destination and Value or Amounts of Exports Cleared from the Port of London during the Month of April.
Specially compiled for THE CHEMIST AND DRUGGIST.

Alcohol.	Chloral Hydrate.	Cutch.	Drugs—cont.	Farina Substances—	Ginger—cont.
Jamaica, 35 gls Alkali. Batavia, 8 cwt Almonds. Amsterdam, 203 cwt Antwerp, 16 cwt Auckland, 4 cwt Barbados, 2 cwt Bremen, 48 cwt Calcutta, 6 cwt Canterbury, 13 cwt Christiana, 35 cwt Copenhagen, 78 cwt Gothenburg, 8 cwt Hamburg, 864 cwt Melbourne, 78 cwt New York, 264 cwt Otago, 4 cwt Port Darwin, 2 cwt Rotterdam, 160 cwt St. John, 6 cwt Stockholm, 11 cwt Sydney, 58 cwt Total, 1,833 cwt Aniline. Bombay, 1,441. Calcutta, 4547. Hongkong, 751. Madras, 227. Shanghai, 7982. Yokohama, 1,967. Total, 3,9867. Bergamot. Rio Janeiro, 34 lbs Bismuth. Boulogne, 15 cwt Caraway Seed. Melbourne, 4 qrs St. John, 8 bushels Sydney, 6 qrs Total, 10 qrs 8 bush. Cattle Food. San Francisco, 6 cwt Charcoal, Animal. Hamburg, 50 tons Chemicals. Adelaide, 847. Alcoa Bay, 847. Auckland, 911. Bermuda, 64. Bombay, 807. Boulogne, 384. Calcutta, 64. Canterbury, 227. Constantinople, 352. East London, 537. Galatz, 217. Halifax, 3227. Hamburg, 367. Hobart, 227. Kobe, 657. Launceston, 277. Leghorn, 631. Lisbon, 257. Madeira, 3082. Maryborough, 157. Melbourne, 3437. Montevideo, 517. Natal, 277. Newcastle, 1057. New York, 284. Oporto, 437. Otago 357. Penang, 607. Reval, 607. Rio Janeiro, 267. Shanghai, 327. St. John, 307. Sydney, 2147. Tunis, 537. Varna, 537. Venice, 1287. Yokohama, 947. Total, 2,6592.	Bombay, 92 lbs Melbourne, 56 lbs Montreal, 100 lbs New York, 162 lbs Sydney, 146 lbs Total, 535 lbs Chloroform. Bombay, 133 lbs Calcutta, 100 lbs Melbourne, 193 lbs Total, 426 lbs Cinchona. Amsterdam, 130 cwt Antwerp, 13 cwt Boulogne, 2,108 cwt Bremen, 848 cwt Brussels, 3 cwt Calcutta, 3 cwt Constantinople, 2 cwt Copenhagen, 12 cwt Dantzig, 11 cwt Genoa, 230 cwt Hamburg, 84 cwt Leghorn, 6 cwt Lisbon, 1 cwt Marseilles, 3 cwt Melbourne, 1 cwt Montevideo, 12 cwt Naples, 1 cwt Reval, 9 cwt Rosario, 6 cwt Rotterdam, 637 cwt Yokohama, 55 cwt Total, 4,165 cwt Cochineal. Antwerp, 5 cwt Bombay, 187 cwt Calcutta, 1 cwt Drontheim, 6 cwt Ghent, 5 cwt Gothenburg, 4 cwt Ibail, 7 cwt Le Troport, 51 cwt Libau, 217 cwt Marseilles, 46 cwt Melbourne, 2 cwt New York, 5 cwt Rotterdam, 71 cwt Varna, 4 cwt Total, 517 cwt Colloidon. Adelaide, 15 els Melbourne, 197 gls Otago, 2 gls Sydney, 140 els Total, 354 g's Coriander Seed. Trinidad, 11 qrs Corks. Adelaide 9,632 lbs Adeo, 1,332 lbs Amsterdam, 50 cwt Barbados, 616 lbs Bombay, 560 lbs Bordeaux, 680 lbs Brake, 57 cwt Calcutta, 2,430 lbs Christiana, 52 cwt Hamburg, 620 lbs Hong-Kong, 450 lbs Jamaica, 224 lbs Karrachee, 1,731 lbs Melbourne, 17,924 lbs Madras, 62 lbs Naples, 112 lbs Napier, 181 lbs New Westminster, 168 lbs New York, 208 cwt New York, 208 cwt Reval, 6 cwt Sydney, 61 cwt 480 lbs Trinidad, 800 lbs Total, 35,914 lbs 480 cwt	Amsterdam, 1,034 cwt Antwerp, 78 cwt Barcelona, 170 cwt Bordeaux, 19 cwt Boston, 2,000 cwt Boulogne, 255 cwt Bremen, 540 cwt Brussels, 294 cwt Copenhagen, 72 cwt Dantzig, 88 cwt Dunkirk, 9 cwt Ghent, 171 cwt Gothenburg, 23 cwt Hamburg, 4,912 cwt Harbour Breton, 10 cwt Königsberg, 91 cwt Libau, 13,39 cwt Lisbon, 14 cwt Malaga, 47 cwt Milan, 48 cwt Naples, 60 cwt Odessa, 9 cwt Reval, 4 cwt Rotterdam, 1,218 cwt St. Petersburg, 197 cwt Stettin, 111 cwt Total, 11,783 cwt Drugs. Adelaide, 552. Alexandria, 1352. Alcoa Bay, 911. Amsterdam, 3472. Antwerp, 852. Auckland, 657. Barcelona, 1,601. Batavia, 217. Bermuda, 47. Bombay, 3077. Bordeaux, 2,000. Boston, 267. Boulogne, 1,340. Bremen, 1937. Brisbane, 802. Brussels, 201. Calcutta, 3552. Canaries, 37. Cape Town, 131. Christiana, 334. Constantinople, 352. Copenhagen, 7071. Cork, 71. Dantzig, 1707. Demerara, 19. East London, 521. Genoa, 372. Gibraltar, 247. Gothenburg, 1622. Halifax, 1917. Hamburg, 8,030. Hull, 989, 382. Hague, 127. Jamaica, 67. Kauverberg, 3977. Launceston, 337. Leghorn, 444. Libau, 227. Lisbon, 772. Malma, 552. Malta, 122. Bombay, 227. Melbourne, 2307. Messina, 602. Mogador, 127. Monte Video, 437. Naples, 552. Natal, 147. Newcastle, 102. New York, 1,204. Norfolkport, 4077. Odessa, 597. Otago, 277. Poti, 817. Rangoon, 3762. Rio Janeiro, 222. Rosario, 1247. Rotterdam, 6892. St. John, 537. Seville, 147. Stettin, 1927. Stockholm, 5047.	Sydney, 962. Trieste, 7542. Tunis, 707. Venice, 277. Wellington, 57. Yokohama, 7692. Total, 13,4947. Essential Oils. Adelaide, 243 lbs Antwerp, 48 lbs Ankand, 81 lbs Barcelona, 100 lbs Bombay, 522 lbs Boulogne, 4,261 lbs Bremen, 500 lbs Brussels, 273 lbs Buenos Ayres, 130 lbs Calcutta, 120 lbs Canterbury, 91 lbs Copenhagen, 48 lbs Ghent, 68 lbs Gothenburg, 127 lbs Halifax, 20 lbs Hamburg, 3,337 lbs Libau, 47 cwt Melbourne, 1,653 lbs Messina, 466 lbs Montreal, 296 lbs New York, 719 lbs Odessa, 71 lbs Otago, 28 lbs R-val, 66 lbs Sydney, 126 lbs Trieste, 68 lbs Total, 13,493 lbs Ether. Adelaide, 7 gls Auckland, 3 gls Bombay, 16 gls Malta, 40 gls Otago, 2 gls Penang, 3 gls Sydney, 14 gls Brussels, 108 cwt Total, 84 gls Extracts (Dye). Antwerp, 6927. Ghent, 390. Hamburg, 9382. Norfolkport, 252. Reval, 1462. Rotterdam, 4882. Shanghai, 4752. Stockholm, 67. Yokohama, 1052. Total, 2,9952.	—cont. Norfolkport, 200. Oporto, 427. Otago, 441. Paris, 1,449. Penang, 47. Port Darwin, 67. Quebec, 157. Rotterdam, 5772. Rouen, 3167. St. John, 27. St. Nazaire, 882. Sydney, 532. Toronto, 1262. Trieste, 117. Trinidad, 37. Vancouver's Island, 87. Wellington, 167. Total, 8,2197. Galls. Amsterdam, 8 cwt Antwerp, 3 cwt Boston, 151 cwt Copenhagen, 3 cwt Ghent, 146 cwt Gothenburg, 58 cwt Hamburg, 4,219 cwt Hull, 1,210 cwt Ibail, 2 cwt Königsberg, 23 cwt Libau, 375 cwt Le Troport, 24 cwt New York, 109 cwt Norfolkport, 8 cwt Penang, 11 cwt Rotterdam, 363 cwt Stockholm, 15 cwt Total, 2,516 cwt Gambier. Amsterdam, 160 cwt Antwerp, 708 cwt Boston, 300 cwt Boulogne, 17 cwt Brussels, 108 cwt Christiana, 101 cwt Copenhagen, 15 cwt Dantzig, 1,129 cwt Ghent, 321 cwt Gothenburg, 24 cwt Hamburg, 4,753 cwt Libau, 795 cwt New York, 819 cwt Norfolkport, 12 cwt Rotterdam, 6,741 cwt St. John, 6 cwt St. Nazaire, 112 cwt Total, 17,544 cwt Farina Substances. Adelaide, 577. Adeo, 17. Alcoa Bay, 111. Amsterdam, 1332. Antwerp, 1277. Ankand, 217. Barbados, 94. Barcelona, 47. Bermuda, 11 cwt Boston, 2512. Bowed, 11. Bremen, 4792. Brussels, 184. Buenos Ayres, 77. Calcutta, 47. Cape Town, 107. Charlotte Town, 37. Copenhagen, 1,558 cwt East London, 107. Genoa, 5577. Gothenburg, 187. Hague, 4607. Hamburg, 7577. Jersey, 847. Lisbon, 937. Malta, 357. Marseilles, 35 cwt Melbourne, 11 cwt Mogador, 12 cwt Montreal, 163 cwt Natal, 6 cwt	New York, 131 cwt Norfolkport, 29 cwt Odesa, 21 cwt Poti, 12 cwt Rotterdam, 21 cwt St. John, 2 cwt Stettin, 24 cwt Stockholm, 17 cwt Toronto, 5 cwt Trinidad, 3 cwt Trieste, 7 cwt Vancouver's I. 2 cwt Total, 931 cwt Gum. Alexandria, 14 cwt Amsterdam, 78 cwt Antwerp, 104 cwt Barcelona, 94 cwt Bilbao, 5 cwt Boston, 3 cwt Boulogne, 120 cwt Bremen, 80 cwt Brussels, 90 cwt Buenos Ayres, 5 cwt Calcutta, 2 cwt Casablanca, 3 cwt Copenhagen, 12 cwt Constantinople, 118 cwt, 307. Dantzig, 57 cwt Dunkirk, 39 cwt Galatz, 238 cwt Genoa, 55 cwt Gothenburg, 9 cwt Hamburg, 662 cwt Ibail, 29 cwt Königsberg, 17 cwt Leghorn, 6 cwt Libau, 546 cwt Lisbon, 3 cwt Malta, 16 cwt Marseilles, 186 cwt Melbourne, 2 cwt Mogador, 12 cwt Nantes, 3 cwt Naples, 30 cwt New York, 309 cwt Odessa, 465 cwt Philadelphia, 23 cwt Piræus, 45 cwt Poti, 113 cwt Reval, 39 cwt Rotterdam, 332 cwt San Francisco, 6 cwt Smyrna, 63 cwt Stettin, 11 cwt Syra, 23 cwt Tagiörs, 3 cwt Tarragona, 13 cwt Trieste, 136 cwt Tunis, 15 cwt Total, 4,565 cwt Gum Arabic. Antwerp, 297 cwt Barrados, 2 cwt Boston, 124 cwt Bremen, 680 cwt Dunkirk, 139 cwt Gothenburg, 76 cwt Hamburg, 168 cwt Königsberg, 4 cwt Libau, 89 cwt Lisbon, 2 cwt Melbourne, 225 cwt New York, 490 cwt Otago, 24 cwt Reval, 293 cwt Rotterdam, 164 cwt San Francisco, 15 cwt Stockholm, 14 cwt Sydney, 62 cwt Trieste, 107 cwt Wellington, 10 cwt Total, 3,011 cwt Gum Kowrie. Amsterdam, 8 cwt Boulogne, 9 cwt

Gum Kowrie—cont.

Bremen, 15 cwt
Brussels, 9 cwt
Hamburg, 149 cwt
Lisbon, 41 cwt
Odessa, 2 cwt
Rotterdam, 42 cwt
Stockholm, 22 cwt
Total, 297 cwt

Gum Lac.

Algiers, 11 cwt
Amsterdam, 45 cwt
Antwerp, 86 cwt
Auckland, 6 cwt
Barcelona, 1 cwt
Boulogne, 19 cwt
Bremen, 1,181 cwt
Brussels, 17 cwt
Copenhagen, 45 cwt
Dantisc, 48 cwt
Ghent, 11 cwt
Gothenburg, 29 cwt
Hamburg, 1,111 cwt
Havre, 190 cwt
Königsberg, 33 cwt
Lisbon, 50 cwt
Malaga, 320 cwt
Malta, 7 cwt
Marseilles, 14 cwt
Melbourne, 48 cwt
Messina, 4 cwt
Naples, 5 cwt
New York, 1,845 cwt
Norfolk, 3 cwt
Odessa, 14 cwt
Palermo, 3 cwt
Reval, 48 cwt
Rotterdam, 602 cwt
Stockholm, 23 cwt
Stettin, 6 cwt
Total, 5,844 cwt

Honey.

Natal, 97
Rotterdam, 1121
Total, 1211

Hops.

Adelaide, 14 cwt
Antwerp, 60 cwt
Boulogne, 46 cwt
Brussels, 25 cwt
Ghent, 123 cwt
Hamburg, 60 cwt
Melbourne, 119 cwt
New York, 93 cwt
Rotterdam, 25 cwt
Sydney, 100 cwt
Wellington, 12 cwt
Total, 727 cwt

Isinglass.

Adelaide, 14 cwt
Auckland, 1 cwt
Cadiz, 1 cwt 14 lbs
Ghent, 3 cwt
Madira, 511
Melbourne, 30 cwt
New York, 8 cwt
O-tend, 12 cwt
Rotterdam, 45 cwt
Sydney, 10 cwt
Total, 1062 cwt, 511

Lemon-juice (under Bond).

Adelaide, 27 gls
Brisbane, 150 gls
Champion Bay, 60 gls
Hamburg, 60 gls
Honoalua, 50 gls
Napier, 4 gls
Port Said, 15 gls
Rosa-Schneider, 300 gls
St. John, Nfld, 15 gls
Wellington, 150 gls
Total, 631 gls

Licorice.

Adelaide, 4 cwt
Boston, 4 cwt
Canterbury, 10 cwt
Melbourne, 25 cwt
Rotterdam, 10 cwt
Sydney, 140 cwt
Total, 197 cwt

Lime-juice (in Bond).

Newfoundland, 54 gls

Linseed.

Auckland, 2 qrs

Logwood.

Bagdad, 6 tons
Brussels, 28 tons
Melbourne, 25 tons
Oporto, 26 tons
Odessa, 5 tons
Rio Janeiro, 1 ton 14 cwt
Rotterdam, 13 tons
Stettin, 5 tons 17 cwt
Total, 110 tons 11 cwt

Madder.

Boston, 360 cwt
San Francisco, 11 cwt
Total, 271 cwt

Medicines.

Hong-Kong, 171

Myrobalans.

Hamburg, 1,742 cwt
Havre, 452 cwt
Rotterdam, 2,675 cwt
Sydney, 63 cwt
Total, 4,938 cwt

Nickel Ore.

Antwerp, 200 cwt

Oil.

Amsterdam, 221
Antwerp, 751
Bilbao, 251
Bermuda, 61
Boulogne, 2001
Bombay, 21
Demerara, 1301
Dunkirk, 251
Glasgow, 1201
Gothenburg, 221
Hamburg, 2,614
Marseilles, 3351
Melbourne, 601
Nantes, 251
Otago, 551
Total, 3,7261

Oil—Castor.

Algoa Bay, 41 cwt
Amsterdam, 6 cwt
Antwerp, 7 cwt
Auckland, 2 cwt
Bombay, 1 cwt
Boulogne, 1 cwt
Bremen, 146 cwt
Brussels, 15 cwt
Calcutta, 4 cwt
Christiania, 1 cwt
Hamburg, 6 cwt
Melbourne, 35 cwt
Natal, 36 cwt
Ponape, 50 cwt
Rangoon, 4 cwt
St. John, 4 cwt
Stockholm, 15 cwt
Sydney, 42 cwt
Total, 434 cwt

Oil—Cocoanut.

Algoa Bay, 5 cwt
Amsterdam, 23 cwt
Barbados, 80 cwt
Barcelona, 206 cwt
Batoum, 39 cwt
Bilbao, 346 cwt
Cassanga, 70 cwt
Demerara, 14 cwt
Dantisc, 114 cwt
Galatz, 208 cwt
Genoa, 184 cwt
Gothenburg, 150 cwt
Grenada, 5 cwt
Hamburg, 4,777 cwt
Jamaica, 14 cwt
Königsberg, 230 cwt
Lisbon, 117 cwt
Melbourne, 6 cwt
Natal, 21 cwt
Odessa, 131 cwt
Reval, 4,206 cwt
Rouen, 79 cwt
Rotterdam, 920 cwt
San Sebastian, 18 cwt
Santhar, 169 cwt
St. Kitts, 3 cwt

Oil—Cocoanut—cont.

St. Petersburg, 1,367 cwt
St. Nazaire, 200 cwt
Seattle, 40 cwt
Stettin, 1,022 cwt
Stockholm, 200 cwt
Taganor, 102 cwt
Valencia, 143 cwt
Trieste, 639 cwt
Trinidad, 1,383 cwt
Total, 16,985 cwt

Oil—Fish.

Antwerp, 7 tons
Dunkirk, 35 gls
Glasgow, 2 tons
Hamburg, 81 tons, 2,991 gls
Melbourne, 937 gls
Rio Janeiro, 13 gls
Rotterdam, 221 tons, 653 gls
Total, 2,727 gls, 464 tons

Oil, Lubricating.

Stettin, 2,840 gls

Oil. Nut.

Rotterdam, 185 cwt

Oil—Olive.

Adelaide, 1,178 gls
Aden, 36 gls
Algoa Bay, 46 gls
Auckland, 66 gls
Barbados, 21 gls
Bermuda, 21 gls
Bombay, 171 gls
Bowen, 3 gls
Brisbane, 10 gls
Buenos Ayres, 104 gls
Calcutta, 91 gls
Canterbury, 571 gls
Cape Coast Castle, 23 gls
Cape Town, 1,050 gls
Copenhagen, 1 g
East London, 61 tons
Halifax, 1 ton
Hong Kong, 104 gls
Jamaica, 15 ton, 518 gls
Livingstone, 3 ton
Melbourne, 1,700 gls
Natal, 239 gls
Newcastle, 442 gls
Otago, 633 gls
Penang, 402 gls
Rangoon, 36 gls
Rotterdam, 36 tons
Singapore, 56 gls
St. John, 35 gls
Sydney, 1,381 gls
Vancover's 11, 170 gls
Yokohama, 300 lbs
Total, 8,821 gls, 417 tons

Oil, Palm.

Antwerp, 988 cwt
Melbourne, 100 cwt
Montevideo, 21 cwt
Riga, 110 cwt
Taganor, 14 cwt
Total, 1,236 cwt

Oil—Seed.

Barbados, 104 cwt
Bermuda, 53 gls
Cape Town, 60 gls
Demerara, 31 tons
Rotterdam, 14 tons
Trinidad, 400 gls
Total, 1,253 gls, 31 tons

Oil, Salad.

Sydney, 300 gls

Oil-Seed.

Adelaide, 6 qrs
Amsterdam, 286 qrs
Natal, 21 cwt
Bruges, 250 qrs
Canterbury, 8 qrs
Demerara, 3 qrs
Dunkirk, 2,226 qrs
Hamburg, 1,683 qrs
Marseilles, 6 qrs

Oil-Seed—cont.

Montreal, 20 qrs
Nelson, 1 qr
Rotterdam, 837 qrs
Stettin, 690 qrs
Total, 6,019 qrs

Oil—Train.

Adelaide, 326 gls
Antwerp, 9 tons
Brussels, 1,333 gls
Dunkirk, 580 gls, 1/2 tons
Hamburg, 41 tons
Leghorn, 1 ton
Le Treport, 390 gls
Rouen, 39 cwt 15 gls
Total, 61 tons, 5 cwt, 2,629 gls

Oil—Nuts.

Copenhagen, 50 tons
Lisbon, 310 tons, 15 cwt
Riga, 180 tons 18 cwt
Rotterdam, 39 tons
St. Petersburg, 160 tons
Total, 740 tons, 13 cwt

Oleine.

Rotterdam, 199 cwt

Opium.

Alexandria, 650 lbs
Gibraltar, 20 lbs
Hamburg, 326 lbs
Lancaster, 65 lbs
St. Nazaire, 99 lbs
Trinidad, 574 lbs
Total, 1,541 lbs

Paraffin.

Hamburg, 210 cwt
Lisbon, 6 cwt
Total, 216 cwt

Perfumery.

Barcelona, 30 lbs
Buenos Ayres, 100 lbs
Hamburg, 36 lbs
Madras, 111
Melbourne, 236 lbs
Montevideo, 45 lbs
Penang, 54 lbs
Sura, 1,680 lbs
Sydney, 300 lbs
Yokohama, 4,900 lbs
Total, 12,747 lbs, 111

Perfumed Spirits.

Adelaide, 53 gls
Alexandria, 8 gls
Auckland, 26 gls
Bangkok, 13 gls
Belize, 63 gls
Bilbao, 9 gls
Bombay, 45 gls
Boulogne, 15 gls
Brisbane, 48 gls
Buenos Ayres, 100 gls
Cadiz, 2 gls
Calcutta, 108 gls
Canterbury, 7 gls
Constantinople, 2 gls
Demerara, 42 gls
Focchoo, 5 gls
Genoa, 14 gls
Hamburg, 75 gls
Hong Kong, 10 gls
K. George's Sound, 3 gls
Kurracoe, 3 gls
Lancaster, 2 gls
Lisbon, 18 gls
Lombard, 15 gls
Madras, 94 gls
Marseilles, 13 gls
Melbourne, 50 gls
Naples, 9 gls
New York, 87 gls
Odessa, 12 gls
Otago, 11 gls
Penang, 15 gls
Port Natal, 8 gls
Pots, 2 gls
Reval, 13 gls
Rangoon, 3 gls
Rio Janeiro, 2 gls
Santander, 16 gls
San Sebastian, 2 gls
St. Nazaire, 96 lbs
St. Petersburg, 6 gls

Perf. Spirits—cont.

St. Kitts, 4 gls
Seville, 3 gls
Shanghai, 3 gls
Singapore, 7 gls
Suez, 4 gls
Sydney, 157 gls
Trinidad, 47 gls
Wellington, 11 gls
Total, 1,343 gls

Poppysseed.

Rotterdam, 848 qrs

Quicksilver.

Amsterdam, 300 lbs
Antwerp, 1,125 lbs
Boulogne, 22,490 lbs
Bremen, 16,600 lbs
Bremerhaven, 1,501 lb.
Brussels, 1,520 lbs
Calcutta, 19,500 lbs
Copenhagen, 456 lbs
Hamburg, 16,750 lbs
Le Treport, 18,750 lbs
Lisbon, 3,040 lbs
Lisbon, 1,650 lbs
Madras, 375 lbs
New York, 7,500 lbs
Rio Janeiro, 750 lbs
Rotterdam, 10,650 lbs
Stettin, 790 lbs
Sydney, 7,940 lbs
Total, 174,406 lbs

Rapeseed.

Auckland, 4 qrs
Bruges, 145 qrs
Dunkirk, 171 qrs
Ghent, 1,512 qrs
Hamburg, 1,717 qrs
Harlingen, 160 qrs
Rotterdam, 1,850 qrs
Sydney, 16 qrs
Total, 5,575 qrs

Rosin.

Batoum, 181 cwt
Calcutta, 4,410 cwt
Nicolait, 440 cwt
Odessa, 154 cwt
Taganor, 870 cwt
Total, 3,370 cwt

Safflower.

Brussels, 68 cwt
Melbourne, 1 cwt
Rouen, 35 cwt
Rotterdam, 28 cwt
Total, 122 cwt

Sago.

Algoa Bay, 2 cwt
Antigua, 4 cwt
Antwerp, 98 cwt
Barbados, 18 cwt
Bowen, 2 cwt
Bergen, 33 cwt
" flour, 3 cwt
Brantford, 20 cwt
Bremen, 18 cwt
Boston, 234 cwt
Canterbury, 13 cwt
Charlotte To wn, 5 cwt
Christiania, 104 cwt
Christiansand, 37 cwt
Copenhagen, 64 cwt, 111 cwt flour
Demerara, 170 cwt
Hamburg, 2,676 cwt
Jamaica, 16 cwt
Montreal, 149 cwt
Otago, 26 cwt
Rotterdam, 234 cwt
Toronto, 127 cwt
Total, 4,143 cwt

Saltpetre.

Bordeaux, 136 cwt
Batavia, 1 cwt
Malaga, 85 cwt
Permanuco, 111 cwt
Total, 394 cwt

Shumac.

Melbourne, 33 cwt

Soap.

Bombay, 15 cwt
Melbourne, 28 cwt
Natal, 140 cwt
Montreal, 11 cwt
Sydney, 9 cwt
Total, 33 cwt

Soap (Trans-parent).

Auckland, 390 lbs
Brisbane, 70 lbs
Natal, 224 lbs
Port Natal, 639 lbs
Total, 3,014 lbs

Sodium Nitrate.

Auckland, 110 cwt
Berbice, 101 cwt
Total, 211 cwt

Sponge.

Adelaide, 50 lbs
Algoa Bay, 69 lbs
Amsterdam, 40 lbs
Auckland, 120 lbs
Bombay, 21 lbs
Brisbane, 27 lbs
Calcutta, 150 lbs
Canterbury, 14 lbs
Cape Town, 74 lbs
Genoa, 143 lbs
Le Treport, 1,732 lbs
Madeira, 200 lbs
Melbourne, 109 lbs
Montreal, 85 lbs
New York, 8,730 lbs
Sydney, 450 lbs
Total, 13,023 lbs

Starch.

Salonica, 25 cwt

Sulphur.

Bordeaux, 10 cwt
Brisbane, 23 cwt
Melbourne, 55 tons
Sydney, 65 tons
Total, 151 tons 13 cwt

Turmeric.

Amsterdam, 47 cwt
Antwerp, 42 cwt
Auckland, 1 cwt
Brussels, 53 cwt
Constantinople, 28 cwt
Hamburg, 106 cwt
Total, 279 cwt

Turpentine.

Adelaide, 9 cwt
Bergen, 36 cwt
Bombay, 18 cwt
Buenos Ayres, 16 cwt
Calcutta, 49 cwt
Penang, 11 cwt
Rotterdam, 310 cwt
Trinidad, 4 cwt
Total, 447 cwt

Waxine.

Yokohama, 371
Yokohama, 91
Total, 411

Wax.

Antwerp, 48 cwt
Boulogne, 1 cwt
Bordeaux, 101 cwt
Brussels, 23 cwt
Demerara, 3 cwt
Genoa, 29 cwt
Hamburg, 401 cwt
Havre, 6 cwt
Kobe, 7 cwt
Lisbon, 80 cwt
Malaga, 481
Messina, 24 cwt
New York, 12 cwt
Oporto, 6 cwt
Rotterdam, 67 cwt
Total, 809 cwt, 481



The New German Pharmacopoeia.—Letter from Dr. C. Schacht, Berlin.

We have received from Dr. Schacht, of Berlin, a letter in which he states that the review of the Pharmacopoeia Germanica, Ed. II., published in our April number, "is both defective and inaccurate (*falsche*). On page 161 is found the following:—"It is unnecessary that we should comment on the utter badness of this process" [for making Extractum cinchonae]. The critic evidently believes that the Cortex china official in Germany (cf. Pharm. Germ., Ed. II., page 63) behaves towards water like the Cortex cinchonae, Ph. Br., which is used for the preparation of Extractum cinchonae flava liquidum (Ph. Br., p. 118). The latter preparation is very defective, as has been recently shown by Dr. Paul. The critic, accordingly, has no misgiving as to the behaviour with water of Cortex china succubra. The Extr. china aqueum of the Ph. Ger. II. is an excellent preparation. About 30 to 35 per cent. of product is obtained, with a very high alkaloid content (about 10 per cent.). Before writing on such a preparation it ought to have been actually prepared."

[The Cortex china succubra, Ph. Germ. II., is the bark of cultivated cinchonas, especially Cinchona succubra; it should contain at least 35 per cent. of alkaloids. Dr. Schacht's statement therefore implies that a bark of the minimum pharmacopoeial strength is completely exhausted, or that a richer bark yields an extract fully up to the official standard.]

"Equally inaccurate (*falsch*) are the reviewer's remarks on the Extracta gentiane and seals contra of the Ph. Ger. II. His want of knowledge duels the process 'for extract of gentian' curious.' To me, on the other hand, it seems 'curious' that so distinguished a journal as THE CHEMIST AND DRUGGIST should open its columns to such a critic. The Extractum gentiane is prepared by extracting the root with cold water; the fluid thus obtained is boiled once to coagulate the vegetable albumen, &c. The Extr. gentiane, Ph. Ger. II., is of excellent quality. Will the critic prepare it once? The conclusion of the article crowns the whole. It is simple impertinence."

"In the article on 'German Prescriptions,' page 168, there is the following remark:—"The price is regulated in Germany by a Government tariff, which the pharmacist may neither go below nor exceed under penalty of a heavy fine." This is entirely wrong (*grund-falsch*), and shows that the writer does not know of the decision of the German Gewerbeordnung of June 21, 1869 (cf. § 80). Section 80 reads:—"The 'Taxes' for apothecaries may be fixed by the Central Authority; abatements from the same by free combinations are, nevertheless, permissible."

"I ask for an early correction, and remain, with extreme respect,
"DR. C. SCHACHT."

[The writer of the review cannot agree with Dr. Schacht's statement in reply to the writer's comment on the process for Extr. china aqueum. Dr. Schacht may be reminded of the statement by Dr. Paul, that "the greater part of the alkaloids" of cinchona bark "is combined with circho-tannic acid, forming salts that are but very sparingly soluble in water," which statement equally applies to red-quill bark. Thus, 10 grammes of bark (containing 6 per cent. alkaloids), treated by the German process, gave—

	Grammes	Alkaloids
Liquor of first maceration	0.07
"second	0.04

Showing only 15 per cent. of the available alkaloids extracted. When allowance is made for the deposit during evaporation, it will be seen that the extract will only represent a small percentage of the alkaloidal constituents of the bark.

Regarding the other matters to which Dr. Schacht refers, the writer has only again to remark that the evaporation of extract of gentian is unduly prolonged by the addition of cold water towards the end of the process, the liquor having been previously boiled to separate albumen.]

The Pharmaceutical Society and its Professors.

To The Chemist and Druggist—

SIR,—Doubtless, in your issue for this month, you will have something to say with regard to the action of the Pharmaceutical Society professors in the matter of the Pharmacopoeia revision.

Is it not time that some radical change was advocated at the Square?

We have there laboratories and museums, and facilities probably unequalled for teaching pharmacists.

We have also a professorial staff, filling chairs endowed by the Society.

Note the result. A very small minority only of pharmaceutical students are to be found at the Square, and its professors will not condescend even to mention to the Council matters of most vital importance, a knowledge of which would probably have saved the members from a severe rebuff, and from the humiliating position in which they now find themselves.

Is any further evidence necessary to prove that the interest of certain

of the Society's servants and of the Society at large are not identical? That the sooner a change is made the better it will be for all concerned is the opinion of
Yours,
A DISGUSTED MEMBER.

English Chemists' Assistants in Victoria.

To The Chemist and Druggist—

SIR,—Referring to your Melbourne Correspondent's communication re the scarcity of assistants in Victoria, will you allow me to supplement his remarks by a caution to English assistants on a subject which has evidently escaped his notice.

The laws regulating examinations here are so framed that only those *apprenticed in the colony* and attending a course of lectures (also in the colony) are eligible to pass the Major examination.

Thus, a young man who has passed the English Preliminary, and emigrated here under the impression he could pass the remaining examination in the colony, would be debarred from taking front rank as a pharmacist, however ambitious he might be to do so.

The only examination open to him is the Modified, which, though it gives him the title of "Pharmaceutical chemist," would place him, no matter what his attainments, second to the colonial-bred pharmacist.

Under these circumstances, it would be obviously unwise for English assistants to come here without first qualifying themselves as pharmaceutical chemists at home.

Respectfully yours,

Banalla, Victoria, March 23. MODIFIED, WITH CREDIT. (38/83.)

The Sale of Arsenical Sheep-dips by Grocers.

To The Chemist and Druggist—

SIR,—A great deal has been written of late regarding the sale of patent medicines by grocers, tailors, &c., in large towns, where the profit on such articles is of some importance to the chemist, and the new Pharmacy Act is on the behalf of such chemists; but nothing is said about the country chemists, who sell little or no patent medicines, and it is on behalf of this class I wish to draw attention.

Country chemists and druggists, as a rule, dispense very few prescriptions. Their chief profit is from farmers' requisites, such as sheep-dips, carbolic acids, oils, &c., and it is in regard to the sale of the first of these I wish to draw the attention of chemists. Can a grocer (as the law now stands) legally sell arsenical sheep-dip? If not, then there are scores of grocers in the Border counties who can be prosecuted for such offence. I question the efficacy of the Act of 1868 in regard to this matter, but would suggest that a clause be inserted in the new Act prohibiting all tradesmen, except chemists and veterinary surgeons, from selling arsenical preparations. Hoping the Pharmaceutical Society and the Chemists' Trade Defence Association will look the matter up,

Yours truly,

Irlawick, April 21.

COUNTRY CHEMIST.

[No doubt the sale of an arsenical sheep-dip by any person other than a registered chemist and druggist is illegal, but only the Pharmaceutical Society can prosecute for such sale.]

7/81. **Liquor Cocci**.—A correspondent writes:—Your Jamaica correspondent's formula for the above will not give a satisfactory product; firstly, the carbene might be thrown out of solution by the spirit, in which it is insoluble; secondly, the presence of sugar renders the resulting liquor prone to ferment. The most rational formula I ever saw published was in a foreign journal (its name has escaped me), as follows:—

Carbene .. .. .	..	20 parts (weight)
Solution of potash .. .. .	..	25 parts or q.s.
Glycerine .. .. .	..	180 parts (measure)
Water to .. .. .	..	450 parts (measure)

M. S. A.

The Value of Chemists' Businesses.

To The Chemist and Druggist—

SIR,—I, and I think many of your readers, would be glad if you would open your Correspondence columns to a brief discussion on a subject which must be of interest to all of us—viz., the buying and selling price of a business.

Judging by the advertisements in the trade journals, the price is guided by the *retains*. This seems to me a very fallacious method, because rent, working expenses, and profits themselves vary so much under different circumstances.

I would venture to suggest an analysis of *profits* for a given number of years as being the true method of valuation, and in a business which did not fluctuate very much two years' profits might be esteemed a fair price. Enclosing card and waiting opinions,

Your obedient servant,

SUBERBAN. (23/83.)

Accommodating Himself to His Environment.

To The Chemist and Druggist—

SIR,—I notice in your April number a letter from a correspondent "J. J.," and also from another "A Chemist of Fifty Years' Standing;" the former on dispensing for doctors in country towns, the latter on the patent medicine trade. With your permission, I would be glad to make a few remarks in *THE CHEMIST AND DRUGGIST* on those letters. I may state, as my *locus standi* in regard to the first, I am in business in a country town, where I am at present fitting up a shop especially for the trade "J. J." is so opposed to. In regard to patents, I have, in the pharmaceutical journals, previously written on the subject, with, I hope, some success. Both your correspondents may have the interests of chemists and druggists at heart, and it is a pity to see them assuming the attitudes they have respectively chosen, as they are most certainly opposing the progress of pharmacy and pharmacists. It is not my desire to defend either patent medicines on the one hand, or cheap physic on the other. I wish only to live and act in sympathy with the times, to accommodate myself to my environment, and compete successfully with my trading neighbours; and experience has taught me that that would not be accomplished by following "J. J." or the "Chemist of Fifty Years' Standing." Indeed, without, I hope, any disrespect, I may say "Rip Van Winkle" would have been a *pseudonym* more appropriate for the "ancient man" of us who can to-day proudly say "I have never had a bottle of the Yankee concoction on my shelves."

I will refer to the letters separately.

"J. J." advocates the extension of counter practice. Now, it cannot be denied, even by chemists and druggists; themselves, that, except in the "very simplest cases," they, as a body, have no competence to prescribe. Their course of study has taught only a knowledge of preparing the *materia medica* for administration by the therapist, and those chemists who are alive to their own status and to the true interests of their profession do not encourage any but the simplest cases. To do so they are by established law authorised, and by public demand—a more important factor—requested to treat; and medical men are not adverse to their treatment of them. As to remuneration in the matter of dispensing, the lowliness of which was in one case the occasion of "J. J.'s" letter. In high-class medical practices, both in the metropolis and provincial towns, the custom of giving prescriptions is, I should say, almost universal. A restriction hindering the patient to obtain his medicine from any particular chemist is seldom if ever imposed, though he may often be recommended to apply to someone who, by years of upright and honest trading, has established for himself a business reputation which medical men can trust to. But in localities where the patients are poor people, the work heavy, and the remuneration from each individual case very low, it would be absurd to give a prescription for some simple 6-oz. mixture to a patient to take to "J. J.," for instance, the prescriber knowing well that he would be charged a price altogether disproportionate to the cost, labour and skill combined required in its production. The price of medicine may not be obedient to the laws of supply and demand to the same extent as such things as sugar and tea. But for years chemists have charged too high for their services. This has resulted in the establishment in the one place of medical dispensaries, and in country towns it has retained the dispensing doctor. I say it pays to meet the doctor. Taking "J. J.'s" example as an indication of the "possible amount of remuneration," I will apply it to my own district. Here we have a working-class population, ironworkers and colliers—about, I should say, 50 to 60 per cent. of the whole population. All these obtain their medical attendance and medicine by contract. In fact, it might be said that if they don't exactly come into the world by contract they live in it and go out of it in that way. They have their wages regulated by it, and they have their houses, their food and clothing, their education, their amusements, and almost everything else appertaining to this world by contract. On pay-day so much is stopped off from their wages. One part of this stoppage is to pay the doctor. He, on his part, contracts with the managers of the works to supply their workpeople with such medicine and attendance as they may at any time during the currency of the contract require. This is known as "works practice." Outside workmen, who may not have the benefit of this arrangement, are, as a rule, members of such organisations as the orders of Foresters, Free Gardeners, Oddfellows, or other local sick-benefit societies. Medical men are, again, requested to undertake the doctoring of these by contract, and this is called "club practice." Now medical men in such circumstances have no choice. If the workmen and members of clubs are satisfied with the attendance they get for their contract payments, who can say they shall not enter into any such agreement? And, on the other hand, if the great mass of the community prefer this system of insurance against the "ills that flesh is heir to," are the doctors not justified in—are they not compelled into—laying themselves out to meet it. They do so, and where is the chemist? If we take as real "J. J.'s" modest ideal of, I suppose, a London West-end chemist—a proprietor of "one of those favoured establishments, realising from morning till night a continuous run of prescriptions, realising from 2s. to 5s. each, can always be depended upon"—and ask where he is, I should say, if he ever existed in manufacturing centres, he is now as extinct as the dodo there. But there is his successor. There are still chemists dispensing "a continuous run of prescriptions from morning till night," only, instead of realising from 2s. to 5s. each, they realise about

from 2d. to 5d., being a contract profit on entire cost of supplying a bottle of medicine equal to what could be obtained anywhere. This, I take it, is the proper division of labour where the system applies, and does away with both medical dispensing and empirical prescribing. I have said it pays, and I will endeavour to illustrate to "J. J." how it does so, though I know that opinion is likely to differ very much as to what constitutes "pay."

Take a population, including 2,000 workmen, representing, say, 10,000 patients, under a contract. There would be, say, 2d. per week from each man, representing 1,300l. per annum. This would probably be divided between two or three practitioners, and a portion of it would go as payment for their attendance. But say half of it were medicine; I should say it would be more beneficial to the local retail chemists to have this amount passing through their hands than that they should fold themselves up in their pride, or what is next door to laziness, and send it to distant wholesale houses. Their pharmaceutical knowledge should enable them to prepare galenicals, &c., equal or superior to those medical men are supplied with, and at their prices, too, and yet retain profit to themselves, besides having the satisfaction of doing legitimate work; and, owing to the larger number of people passing in and out of the establishment there would be an extra opportunity to push the sale of the host of druggists' sundries, "curative nostrums," &c., which "J. J." fears would, under this arrangement, have to be given up. In any place where doctors are now dispensing their own medicines I am sure it would be advantageous to both parties to enter into the contract system; if impracticable in regard to patients, it could be managed, and I should imagine more satisfactorily, between the prescriber and dispenser. In towns where the medical men prescribe only, of course there is no necessity for it; but even there I am sure, in many cases the price charged is adverse to our interests as a class. What right have I to charge, say, 1s. 6d. for a mixture containing nothing but 2 drachms of tincture of perchloride of iron in 6 oz. of water. On the other hand, the position of the metropolitan specialists referred to by "J. J." is different. They are quite entitled to the charge they have to make for their special work; the difference between them and us is that our ordinary work is not very special, and we must remember that as retailers we depend on the public, and that they do not depend on us to any great extent.

About the patents difficulty. I think it has already been pretty well threshed out. "The present patent-medicine crisis," which the chemist of fifty years' experience seems only just now to have awoke to the existence of, has almost passed into history; and it is really amusing to read of this "legitimatist (*sic*) chemist," who has not yet sold a bottle of the ubiquitous Hop Bitters, claiming to "belong to the party that has been the means of fostering and extending the patent-medicine trade to its present dimensions." You must have "stopped short" somewhere, "old un."

I would be glad to go through his letter and point out to him some changes in the scene; would show him some new "properties," but as he may now have relapsed for another half-century—*reposita in pace*.

Yours truly,

W. B.

Workington, May 10.
[We feel much obliged to "W. B." for his vigorous and healthy protest against the complaining spirit which is too much cultivated among us, and which, at any rate, will never bring about any good result.—Ed. C. & D.]

Curiosities.—Messrs. J. Johnston & Adams, of Dundee, send us the following specimens of orders received by them in ordinary retail trade:—

Quarter tary essick; eason of carliske; foulers eth and clarrilline; cynn in poods; setecate; I solling packet of puters, 1 shilling sverleink, sugar lead mixtd; parsh gorack, ack ash anna wine; 2d. sweet nitter, 3d. a.e.p., 3d. gumelic, 3d. ground hubh; 2d. worth of purpy stick, 1d. worth of copperuss; tow ounce of creamtaro, tow ounce of tarykast, tow ounce of hakenoddy, tow ounce of rockshell salts.

50/79. *Canadian.*—We have never heard that Canadian chemists are much in want of English assistants, and, as we understand, salaries there are much the same as here. We think the chances are against any Canadian firm responding to any advertisement you might publish. The *Canadian Pharmaceutical Journal* is published at Toronto, and we do not know that it is to be had anywhere else. If the Ontario Veterinary College is recognised by the Royal Veterinary College here, and if you gain its diploma during a residence of not less than five years abroad, you can claim therewith registration here on payment of the proper fees.

Mucilage of Acacia.—I think there is no hotter or equal way of making this mucilage than by continuous stirring in the cold. The plan already proposed is good just so far as it approaches this continuous action. I much prefer small picked gum arabic to the powder, as a bright clear solution is the result. Any application of heat is to be avoided, since the keeping properties of the mucilage are thereby injured. It may seem a trivial suggestion, but in every case of stirring great advantage is gained by using an open basin of twice the capacity of the ingredients manipulated. Time and trouble are both saved, and a satisfactory product is obtained.
J. I.

Sarsaparilla and Quinine.—70/30. J. H. K. (Rock Ferry) says the following formula may, perhaps, satisfy our correspondent:—

	Parts
Dec. sarze co. conc.	5
Ex. cinchon. liq. (B.P.)	2
Sp. vini rect.	3
Tinct. quinine co.	2
Syr. aurantii	4

Mix the ext. cinchon. and syr. aurant., and then add the other ingredients.

Corassa Compound.—Tois nostrum has been advertised very largely in America as a cure for debility, &c., and some chemists in this country have written to us about the professed formula. In the last number of the *Therapeutic Gazette*, of Detroit, we find a complete exposure of the whole business. An advertiser calling himself the "Rev." Jos. T. Inman offers to send a formula, which, when received, is found to be this:—

	Drachms
Ext. of corassia apilinis	8
" selarino umbellifer	4
Powdered alchermes latifolia	3
Ext. of carsadoc herbolis	6

Of course the drugs cannot be obtained, and then the "Rev." is willing to supply the stuff at cost price—\$3.50. Messrs. Parke, Davis & Co., the proprietors of the *Therapeutic Gazette*, have had the matter investigated, and they and their correspondents state that the business is run by two young English bloods in New York, who affect "diamonds, fast horses, and faster women." Their names are given variously. The stuff they send has been examined by Dr. A. B. Lyons, who says that, approximately, it is as under:—

	Parts
Powdered gentian about	15
" licorice	15
" sugar	50
Sodium bicarbonate	17.5
Powdered cochineal	2.5

F. M. left a box of *Cera Flava* under a vinegar cask, and the vinegar leaking through has brought the wax to a colour resembling furr's earth. He would like to know if he can anywhere restore it to its original appearance.

[We know of no method of restoring the natural colour to the wax. We would, however, recommend that it be thoroughly washed in boiling water to remove any trace of acid. After drying it would be quite fit, we think, for many of the more common purposes to which wax is applied. Melting after washing and mixing with some of the higher-coloured waxes occasionally met with might also be tried.]

11/29. Can anyone help **W. J. M.** to the composition of **Surfett Water**? He gives us no further indication of its probable uses.

45/41. *Rudicus* (for whose esteemed question we had to pay 2d. postage) wants to know what is **Barbour's Mixture**. Some of his customers insist on being supplied with Gregory's mixture under the above name, while others maintain that it is a preparation containing opium.

84/4. *Calves' Food.*—**D. H.** would feel obliged if any reader could give him a formula for patent food for calves, to be used as a substitute for milk.

82/40. *H. E. R.*—The following formula has been published to produce an imitation of the preparation you name:—

Potassium iodide	64 grains
Chloric ether, B.P.	4 drachms
Liquor potasse, B.P.	30 minims
Water coloured with burnt sugar . .	7½ fl. oz.

We have no formula for making ink to be used with a copper stamp. We should be glad if any reader can supply one.

81/4. *Allen's Anti-fat* is reported to be a fluid extract of *Fucus vesiculosus*, the common bladder-weed of our coasts.

31/40. *Half-fat.*—*Perfumery.*—An article on the extraction of perfumes by methyl chloride is printed at page 172 of our volume for 1880. Another paper will be found at page 87 of our volume for 1877. Full information is given in *Piesse's "Art of Perfumery."*

82/56. *Concretions.*—*Egyptianum.*—More properly **Mel Egyptiacum**, is a compound of verdigris, vinegar, and honey. Very full particulars of its manufacture and history are given in *The Chemist and Druggist* for November, last page, 492, in a review of a pamphlet on the subject by the well-known Belgian pharmacist, M. N. Gilie.

83/42. *C. R.*—*Hair Restorer.*—We are not in a position to give an authoritative opinion, but should surmise that the third formula (your own) would be more generally useful. We cannot say, without experiment, if boiling is an advantage, but you can easily test this by separating and weighing the deposit left after boiling. If you find that the sulphur is not dissolved we should say that boiling is useless. If you intend to sell the article by the bill you sent we fancy you will find it hard to justify all the statements in it, as, for instance, that it is "a new stimulant." We have no reason to suppose that arnica is useful, though cantharides is.

82/44. *A. P. S.*—*Orange Bitters.*—The formulae for bitters and liqueurs are excessively various, and probably differ in every town. Subjoined are two formulae for orange liqueurs. If not bitter enough a little compound gentian tincture might be added.

Crème d'Orange.

Oranges, sliced, three dozen; rectified spirit, 2 gallons. Digest for fourteen days, then add, lump sugar, 25 lbs., previously dissolved in water 4½ gallons; tincture of saffron, ½ lb. oz.; orange-flower water, 2 quarts.

Orange Cordial.

Fresh orange peel, ½ lb.; proof spirit, 1 gallon. Digest for a week, strain with expression. Add clear soft water to reduce it to the required strength, and 3 lbs. of sugar to each gallon. The addition of a little orange-flower water improves it.

83/66. *Inquirer.*—*Alum in Baking Powder* is not considered an adulteration, as it takes the place of tartaric acid. The question was tried before the Cambridge Quarter Sessions on January 9, when a conviction by the magistrates was reversed. The cases are briefly reported in *THE CHEMIST AND DRUGGIST*, December, 1879, p. 528, and January, 1880, p. 9. The appellants will, perhaps, be able to supply you with a fuller report of the case.

83/31. *W. B. J.*—*Photographic Books.*—Too books named below were recommended in the article on "Photography," published in *The Chemist and Druggist's Diary* for 1882. Hughes' "Principles and Practice of Photography," 1s.; Abney's "Practical Working of the Gelatin-bromide Process," 1s. 6d.; Abney's "Treatise on Photography," 3s. 6d.; Abney's "Instruction in Photography," 2s. 6d.; Hartwell's "Photographic Chemistry," about 7s. 6d.; "The Autotype Manual," 1s.; Lieegang's "Manual of the Carbon Process," 4s.; "Landscapic Photographers' Note-book," 6d.



LIQUIDATIONS.

CARR, JAMES, Temple View Chemical Works, Leeds, drysalter. April 18.
HARRINGTON, RICHARD BEAUMONT, 44 Sherwood Street North, Nottingham, chemist and druggist. April 25.
LONG, WILLIAM, 103 Colchill Street, Birmingham, chemist and druggist. April 17.
MALEHAM, HENRY WILLIAM, 7 West Bar, Sheffield, under firm of H. Maleham & Son, Sheffield, chemist and druggist. April 10.
MATTHEWS, CHARLES, High Street, Marke, chemist and druggist and stationer. April 28.
ROBINSON, SAMUEL, 21 High Street, Northwich, chemist and druggist. April 25.
SCHOLES, FREDERICK DARFIELD, 129 Oldfield Road, Salford, chemist and druggist. April 26.

PARTNERSHIPS DISSOLVED.

HILL, WILLIAM, COCKBURN, ELIZABETH, and **PLOWRIGHT, HENRY,** jun., King's Lynn, chemists and druggists. October 23. Debts by Cockburn and Plowright.
THOMAS, J. H., & SONS, Market Place, Boston, chemists and druggists, manufacturers of aerated waters, and wine and spirit merchants. April 3. (John Ashlin Thomas and Frank Thomas.) Debts by J. A. Thomas.

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digestion ver Complaints Neuralgia Sciatica writer's Cramp as of Voice	Asthma Bronchitis Paralysis Epilepsy Rheumatism Gout Constipation	Local Debility General Debility Female Complaints Mental and Physical Weakness Functional Disorders &c., &c.
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"CARNRICK'S" BEEF PEPTONIDS contain *only the nutritive portions* of the beef. It contains *no water* and *no inert matter* of any kind. We combine the dry Extract of Beef with an equal portion of Gluten to prevent a tendency to deliquescence, and in order to present the preparation in a powdered and portable form. It is well known that Gluten is the most nutritious substance found in the Vegetable Kingdom, and in nutritive elements is closely allied to Beef.

Four ounces of "CARNRICK'S" BEEF PEPTONIDS represent as much nutritive and stimulating properties as forty-eight ounces of tae best Beef.

Four ounces of "CARNRICK'S" BEEF PEPTONIDS contain more nutritive elements than ten pounds of any Extract made by Liebig's formula, and from four to six times more Albuminoids and Fibrinoids than any Beef Extract ever offered to the Medical Profession.

Our machinery and process for the production of BEEF PEPTONIDS are perfectly adapted to the *elimination* of all inert portions of the Beef, and the retention of all the nutritive constituents.

"CARNRICK'S" BEEF PEPTONIDS is *much less expensive* than any other preparation in the market, as it contains *neither water nor inert matter*.

The favour our preparation of BEEF PEPTONIDS received at the hands of Drs. AGNEW, BLISS, HAMILTON, REYBURN, WOODWARD, BARNES, &c., the corps of eminent Physicians, who employed the preparation with so much advantage in the treatment of the late PRESIDENT GARFIELD, proves conclusively its great value, not only as food to be taken by the mouth, but also how important an agent it has been found in feeding by the Rectum. Please refer to the very able article of Dr. D. W. BLISS, in *New York Medical Record*, July 15, 1882, in which he so frequently refers to our BEEF PEPTONIDS having been used to so great an advantage, not only in the case of the late PRESIDENT GARFIELD, but many others as well.

A reliable and experienced person is employed to select the Beeves before they are slaughtered, and to superintend the killing and dressing. Great care is exercised in this respect, and none except the most healthy and suitable Beeves are employed in making our BEEF PEPTONIDS.

The use of BEEF PEPTONIDS is indicated as follows:—

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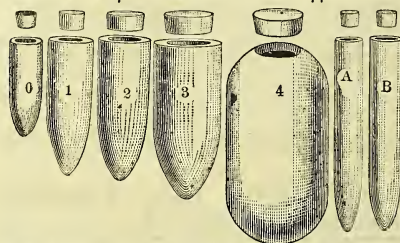
The object of this invention is to supply Druggists and Physicians with HOLLOW SUPPOSITORIES, into which they can put MEDICINE or NUTRIMENT, thus preparing them for use in a few minutes.

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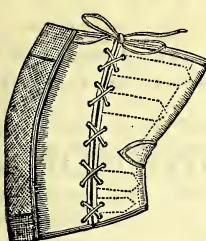
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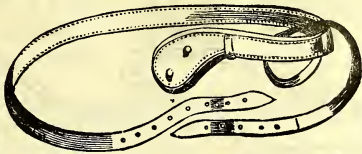
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Fig. 1.



Fig. 5.



Fig. 29.

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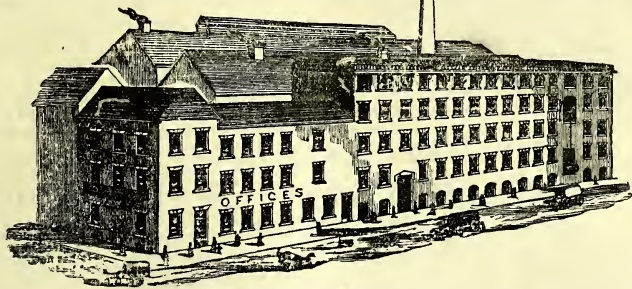
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Is the best preventive and cure of Bronchitis, Asthma, Winter Cough, Tight Breathing, and all Throat Complaints. 1s. 1½d. & 2s. 9d.
Mr. J. D. Fisher, Chemist, Blackpool, in ordering another supply says—"I have tried it myself, and have received great benefit from it. My customers speak highly of its virtues. Have sold the last, so be prompt, please."

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BELL'S PATENT LIFE PILLS AND OINTMENT



Are acknowledged by thousands to be the best and safest medicine ever offered to the public.

It is impossible to equal them in the worst cases of Nervousness, Liver Complaints, Indigestion, Lumbago, General Debility, Bile, Disordered Stomach, Costiveness, Female Complaints, Wind, Skin Diseases, all Eruptions, Boils, Ulcers, Burns, Cancers, Abscesses, Piles, &c., &c.

Handbills and Posters, with name and address, sent to any Chemist, or for enclosure to any wholesale house, on receipt of Post card.

In 1/1½, 2/9, and 11/ Boxes and Pots.

Sole Manufacturers, **W. BELL & CO., Reading Berks.**

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EXTRA
Pure CARBOLIC ACID Cryst.
ABSOLUTE PHENOL, AT MODERATE PRICE.
 Clean, Pure Taste, Free from Tarry Flavour.
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LONDON,
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Dr. J. C. THRESH,

who, from his exhaustive analysis of Ginger, is probably the greatest authority on the subject, says of

Fisher's Soluble Essence of Ginger:

"It is typical of what such a preparation should be; it is by far the best commercial soluble Essence I have yet seen, and I doubt the possibility of making a stronger or better."

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F. D. FISHER, Pharm. Chemist, GRANTHAM.

LIQUOR BISMUTHI SCHACHT

Dose, 5j., diluted.

Great pains are taken to ensure the absolute purity of this preparation. It is not only freed from the ordinary contaminations of the metal, such as copper, arsenic, silver, &c., but that which so frequently causes an offensive odour to pervade the persons of those taking the ordinary preparations of Bismuth, namely Tellurium, is also most carefully eliminated.

SYRUPUS CINCHONÆ ALCOHOLICUS, SCHACHT.

Bark minus the woody fibre. Dose, 10 to 30 drops, diluted.

LIQUOR RHAMNI FRANGULÆ, GILES.

A real aperient, mild and constant. Dose, 5j. to 3iv., diluted.

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Made by cold maceration—does not gripe. Dose, 5j. to 5ij.

EXTRACTUM CINCHONÆ LIQUIDUM, GILES.

Exhausted entirely with cold water, and prepared by a process specially devised to avoid the changes inseparable from prolonged evaporation.

Dose, 10 to 20 drops, diluted.

The above Preparations are manufactured by Mr. Schacht himself in the laboratory of the firm.

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And can be procured from all Wholesale Druggists in London and the Provinces.

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For a Weak Stomach, Impaired Digestion, and all Disorders of the Liver, they act like "MAGIC," and a few doses will be found to work wonders on the most important organs in the human machine. They strengthen the whole muscular system, restore the long-lost complexion, bring back the keen edge of appetite, and arouse into action, with the ROSE-BUD of health, the whole physical energy of the human frame. These are "FACTS" admitted by thousands, embracing all classes of Society, and one of the best guarantees to the Nervous and Debilitated is, BEECHAM'S PILLS have the LARGEST SALE of any Patent Medicine in England.

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Pure Chemicals of every description for Technical, Manufacturing, and Scientific Purposes.

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Makers of all the Hypophosphites; also of Valerianic Acid and all Valerianates, Bisulphide of Carbon, Chloride of Sulphur, Chlorate of Baryta, and Chemicals for Pyrotechnical and all other purposes.

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Refiners of Sulphur in Rock or Roll, Ground Sulphur, Washed Sulphur, Milk of Sulphur, Precipitated Sulphur. Guaranteed Pure.

[ESTABLISHED 1852.]

SAMPLES AND QUOTATIONS ON APPLICATION.

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ACID ACETIC FORT, 1.040.

Prime Quality and Guaranteed from Soda.

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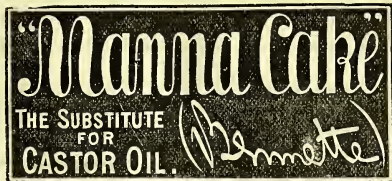
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Wholesale, 12 per gross.

Less 12½ per cent. at one month.

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Retail, 14d. each (18s. per gross).

SUPPLIED TO ONE RETAIL CHEMIST ONLY IN EACH TOWN, DISTRICT, OR COUNTY

(through whom alone Chemists can order), who must engage in writing to supply none but Chemists, and to charge cutting Chemists a price at which they cannot cut. The MANNA CAKE is done up only in quarter-gross cases, for home trade; foreign, in bulk. With each case (the smallest quantity supplied to Chemists) is enclosed a most effective Window Slip (20 in. by 8 in.).

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3.—Agent to take at his own risk quantities as here given, viz.:—In Great Britain—one gross for every 4,000 population; in Ireland—one gross for every 6,000 population, of the town or district for which he accepts.

4.—Terms Cash, or two REPUTED Referees.

N.B.—In the case of acceptances for large districts and counties, the whole quantity contracted for is sent in consignments at stated intervals subsequently agreed on. The discount allowed is 20 per cent. off cash against the several consignments, and beyond this 2/- per gross is deducted, which sum the Agent must engage to enter in the best newspaper media. Casts of Trade Mark sent when required for newspapers. Agents charge to chemists, 12/6 to 13/- per gross net. From Jan. 15 last up to date about 1,270 gross have been contracted for.

N.B.—The 20 per cent. is allowed only off contracts for districts or counties.

TO RETAIL AND FOREIGN HOUSES

Monopolies are offered on terms enabling them to force the sale in any way they think best. Terms 6/- per gross, free alongside ship, less 2½ per cent. for cash against shipping documents. No printed matter is included in this, the consignee issuing such matter as he thinks best for his monopoly, the large margin of 12/- per gross being allowed for this and retail profits. These contracts are made on the basis of one gross for every 8,000 population, and the interests of consignee and consignees will be enhanced by the contracts covering as large districts as can conveniently be managed. In these cases the whole quantity contracted for should be taken out within three years, and consignees must guarantee in writing not to supply the home trade through any source.

Applicants for these must state the boundaries of monopoly sought, and its population, which will be compared with printed statistics. Should these boundaries infringe on existing monopolies, the fact will be pointed out, and arrangements made accordingly.

For samples, propaganda, &c., write—W. RYDING-BENNETTE, Chief Depot, 268 Walton Road, Liverpool.

N.B.—If at any time an Agent can prove that the conditions herein-named have been violated, he is entitled to return any goods on hand, and to demand payment for them.

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"A Physician in the West of England says he gave Calomel and Jalap in repeated doses without effect, but a MANNA CAKE acted almost immediately."

"The above is a *bond-fide* statement, but I am not authorised to give name and address."

"The article is selling freely."

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"This move of yours is in the right direction. The sooner Chemists bestir themselves to foil the 'cutting' system, the better for them and for Prioretors."

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"It is one of our best preparations."

HENRY BECK, Chemist, Albrighton, Salop.

"It is singularly mild and efficacious. I certainly consider it a splendid substitute for Castor Oil."

A. CHRISTIE, Chemist, Newton-Abbot, Devon.

"Dear Sir,—Kindly send me one gross on trial. If good results ensue I will take the county of Essex."

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"Such a system of agencies is a veritable ally to the C. and D. Trade Association, and it is to be hoped that other manufacturers will follow the example."

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"The MANNA CAKE should, in my opinion, have a place in the next edition of the Pharmacopoeia. It will make its way on its own merits. Rigollot's 'Cloth' and the MANNA CAKE may be considered legitimate weapons of domestic medicine."

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Dr. McCANN, Orchard-ley, Liverpool, sent the following letter:—"Dec. 22, 1880.—The aperient action of the MANNA CAKE is decidedly good. Mildly energetic, free from griping, and to be depended on when a mild but certain aperient is needed. It is, also, an effectual WORM CAKE. Being pleasant to the taste (it is mainly sugar), its easy administration very strongly recommends its use, especially in fever cases, where all excitement should be avoided."

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A CERTAIN CURE FOR DEAFNESS.

By this valuable "Specific" hundreds have been cured of this distressing malady. For Cold in the Head with Noises in the Ear, it is most efficacious. The highest testimonials are enclosed, with directions for use with each bottle.

OSBORNE'S GOLDEN DROPS FOR DEAFNESS.



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"*ENGSTON, MAY 4, 1877.*—Sir, My niece, who came to stay at my house, was suffering from Deafness and difficulty of breathing, owing to weakness of the tonsils caused by Quinsy. She tried your wonderful 'Specific,' and after applying it a little more than a week her hearing and breathing were quite restored. I am glad to communicate this as the medium of personal thanks and for the good of others.—Yours truly, G. L."

"*CHAPMAN, SEPT. 5, 1877.*—Sir,—Be so good as to send me six bottles of your 'Cure for Deafness,' and you will oblige. I am much better. Shall I go on with it? Be so good as to let me know. It has done me more good than physicians to whom I have paid twenty guineas; they cannot do me any good.—Yours, &c., J. P."

"*CRYSTAL PALACE ROAD, EAST DULWICH, JUNE 10, 1878.*—Sir,—During the last few weeks my little girl has been quite deaf, and suffering considerable pain in her left ear. I was recommended to use your 'Golden Drops for Deafness,' and I am delighted to say that, after applying them three times, they brought away two large secretions of foul matter. The child can now hear distinctly the faintest sounds, and is free from pain. I send you this testimonial unasked, in the hope that its publication may increase the sale of your truly valuable 'Golden Drops.'—Yours respectfully, L. H. S. N.B.—If you will send me some testimonial sheets I will distribute them amongst my friends."

Sold by all Wholesale and Retail Chemists, price 1s. 1d., 2s., 2s. 9d., and 5s. 6d.; or free by post for 1d. extra from

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The Original Preparation, as approved by the Medical Profession on account of its known composition and uniform strength.

Retail at 13½d., 2s. 9d., and 4s. 6d. Dispensing, 4 ozs., 4s. 6d., and 10 ozs. 11s., stamped.

LIQ. CHLORODYNII,

As originally introduced by A. P. Towle, and free from stamp duty for dispensing.

4 ozs., 4s.; ½ lb., 5s. 6d.; 1 lb., 10s.

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In 1, 2, and 4 lb. Bottles, at 3s. per lb., and 6d. and 1s. Boxes.

Foiled, Lined and neatly got up for the counter, 4s. 6d. and 9s. per doz.

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HOMŒOPATHIC MEDICINES

HOMŒOPATHIC ^{AND} SUNDRIES OF ALL KINDS.

PRICE LISTS OF MEDICINES, MEDICINE CHESTS, &c., POST FREE TO ANY PART OF THE WORLD.

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ORIGINAL AND ONLY GENUINE

HOMŒOPATHIC ABSORBENT WAFERS

(REGISTERED).

For administering Tinctures of all Dilutions without the inconvenience of Dropping or the necessity of Water.

MESSRS. CONYNGHAM & CO. are convinced many Homœopaths would prefer the use of Tinctures to Pilules, were it not for the inconvenience experienced in dropping them, and the necessity of water for the administration of each dose; consequently they have introduced these **ABSORBENT WAFERS** as a successful mode of meeting this difficulty.

These Wafers are so prepared that, when placed over the mouth of the bottle (which is carefully tilted), they absorb the usual dose. The Wafer is then immediately placed upon the tongue to dissolve like an ordinary Pilule; thus at once dispensing with the trouble of dropping and the use of water.

"Very useful for business people. We wish the Wafers all success."—*Homœopathic World*.

"The Wafers will be found very popular, as they add considerably to the convenience of administration."—*Chemist and Druggist*.

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ESTABLISHED 1843.

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HOMŒOPATHIC CHEMISTS,

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And (late HENRY TURNER & CO.)

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ILLUSTRATED PRICE LIST ON APPLICATION.

THOMPSON & CAPPER have now for many years, with the greatest benefit to their Agents throughout the world, supplied, *free of cost*, Books for Gratuitous Distribution, compiled by themselves, containing complete directions for using the Homœopathic Medicines, a plentiful distribution of which invariably ensures a large sale. Handbills also, with name, *ad lib*.

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DENTIFRICE WATER.

Sells well everywhere, its beneficent qualities being attested to by physicians in all parts of the world. (See Testimonials.)

In 1s. 6d., 2s. 6d., 4s. 6d., and 8s. 6d. Bottles.

SUGAR COATED PILLS

R. HAMPSON prepares the Pills of the Pharmacopœia, and a great variety of Pills from convenient formula; also Pills from private formula. The Pills are made of the best ingredients, and being quickly and perfectly diffusable, invariably give satisfaction. A Price Current, with formulae and sample, post free. Supplied direct or through the Wholesale House. Special quotations for large quantities.

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66 SOUTH JOHN STREET,

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For Home, Foreign, and Colonial Markets.
Wholesale only.

W. KEMP & SON, HORNCastle,

are now offering a consignment of fine, clear, unset SWISS and CALIFORNIAN HONEY, in free 28-lb. Tins, with Handles and Necks. The quality is very choice, and is seldom met with. Applications for Samples and Prices solicited. Genuine French Beeswax in bricks, Hungarian Beeswax, White Wax at low prices. Nett Price List of Linseeds, Linseed Meal, Drugs, Chemicals, Oils, &c., free on application. W. KEMP & SON, Wholesale Druggists, Seed Crushers and Merchants, Horncastle.



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(Late Partners with FILMER KIDSTON).

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REMOVAL TO NEW WORKSHOPS, where along our special Class
Manufacture can now be obtained.
THE ART JOINERY WORKS 22 GUN ST., BRUSHFIELD ST.,
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Labour well planned is half done.

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All Orders, Letters, Telegrams, &c., promptly attended to.

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WITH BURNT-IN LABELS

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Capped and Tube-stoppered Oil Bottles.

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Shop Jars of Best Porcelain, thoroughly Grease-proof.

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A Large Variety of Samples on Show at

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FLAT PLATE GLASS CASES, from 20s. per foot run.

OUR CELEBRATED DISPENSING SCREENS,

6-ft. long, 25-in. to Cornice, and 32-in. to top of centre Mirror, fitted with Marble Slab in centre, Plate-glass Doors, Mirror Backs, and Velvet Trays to Cases, at £7 10s. Od.

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See pages 39, 40.

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Fixtures, Bottles, Jars, Carboys, and
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BRASS WINDOW FITTINGS.
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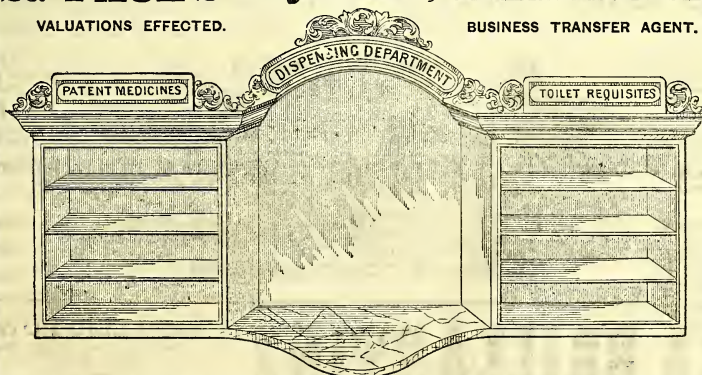
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VALUATIONS EFFECTED.

BUSINESS TRANSFER AGENT.



This Case is made of choice Mahogany, with Mirror in centre, and is lined at back with Black Enamelled Leather Cloth; it has Plate-Glass Shelves, Glass Knobs on the Doors. Marble Slab in the Centre, and is fitted with Three Shelves at back. The Case is 6 feet long, 3 feet 6 inches high, 30 inches deep, and 36 inches to top of centre mirror.

For Export or easy transit it is admirably adapted as it takes to pieces, and can be fixed again in an hour. Packed into a Case 34 by 36 by 30 inches, it can be shipped by rail, and the full value covered if required carriage paid. £1500, £35 10 0.

Second-hand Fixtures for Sale, Jars, Globes, Drawers, Bottles, Counter Glass Cases, Shelves, &c
SECOND-HAND FIXTURES OF ALL KINDS BOUGHT AND EXCHANGED.

R. T. will wait upon parties fitting up, to plan and advise. 2nd-class fare only charged.
FOR SALE, FIXTURES FOR SHOP ABOUT SIXTEEN FEET BY TWELVE. WRITE FOR LIST



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Examine each Cork to have the Brand on the left hand, each Label to have Trade Mark on the right hand, with initial's M. H. and Signature

Leopold Hoff

First order of an English Physician to M. HOFF, HAMBURG, in the year 1862.
 4 Wells Road Park, Torquay, December 29, 1862.
 Please send me as soon as possible 75 bottles of "your" Malt Extract, leverage of health, with bill. Address to my druggist, John T. Fisher, 8 Strand, Torquay (Devonshire).
 EDELSHEIM, M.D.

First imitation of Hoff's Malt Extract made in London 1867.
 (From a letter addressed to M. HOFF, HAMBURG.)
 "I have a prejudice against buying your preparation here, as a German druggist told me that Hoff's Malt Extract is here imitated, and that a certain party has brought with him some herbs for a similar preparation."
 "49 Graham Road, Dinston, London,
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Put on by Sponge attached to Wire and Cork in each Bottle. No Polishing Brush required. Dries in a few minutes. Can be used by any lady without soiling her fingers.
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Is the best in the Market, and it can be used with good effect on Ornaments, Picture Frames, Iron and Fancy Work generally, as well as for Boots and Shoes. In Cartons, 7s. per dozen. 2 1/2%.
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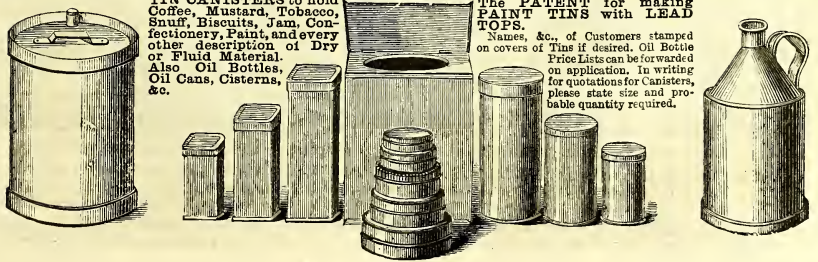
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TIN CANISTERS to hold Coffee, Mustard, Tobacco, Snuff, Biscuits, Jam, Confectionery, Paint, and every other description of Dry or Fluid Material.
 Also Oil Bottles, Oil Cans, Cisterns, &c.

PROPRIETORS OF
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Stamped and Verified as required by the Weights and Measures Act.

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9/6 11/6 9/ 10/3 11/6 13/ 14/6 18/ 19/ 21/ 29/ 39/ per doz.

CAUTION.—Each Measure manufactured by me bears my name as a guarantee.

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INCORRODIBLE WHITE METAL SCREW- TOP BOTTLES,

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Warranted Accurate Measure and Graduation.

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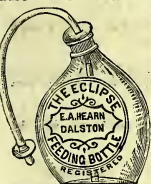
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White Fittings, 30/ per gross.

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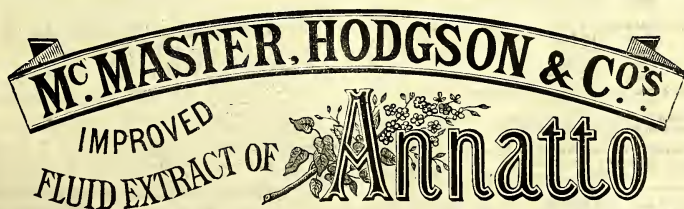
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FOR JAUNDICE AND ALL LIVER COMPLAINTS.

Biliousness, Indigestion, Weakness, Sick Headache, Loss of Appetite, Nervous and Dyspeptic Affections, General Debility, Spasms, &c.

It quickly cures the above complaints of however long standing. PURIFIES and CLEANSSES THE BLOOD, and gives to the system a healthy tone. NO CHANGE OF DIET IS REQUIRED. Those with weak constitutions may take it with entire confidence, it being adapted to all ages of either sex.

Sold in Bottles 2s. 9d. each.

In all Countries this Medicine is invaluable, but more so in the Tropics, India, and all Hot Climates, and we particularly call the attention of Shippers and our friends in the Colonies and Abroad to it.

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Manufacturers of the "Glycerine Dip" for Sheep, "Fly Powder," "Butter Powder," "Castor Oil and ordinary Sheep Ointments," the Original Luddington Oils for Horses, Sheep, and Cattle, &c.

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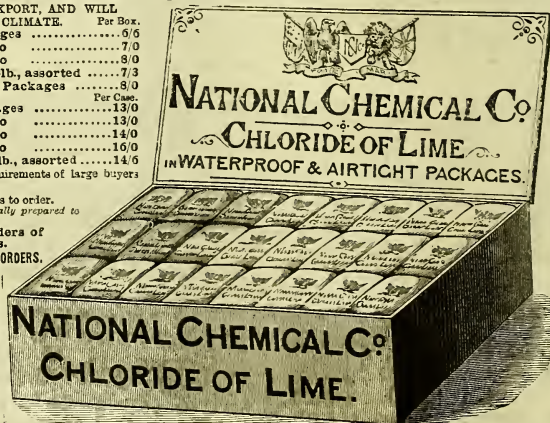
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Are a certain remedy for all ailments to which Swine are subject
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Beware of Spurious Imitations. Each Powder protected by the Registered Trade Mark.

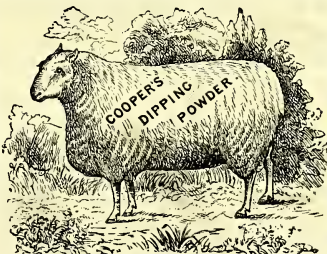
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**FOR TICKS, FLY, SCAB, AND FOR ALL OTHER
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This Dip has been in use for Forty Years, and has never
been equalled; it is of uniform strength, does not stain the
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It supersedes all Carbolic and other Liquid Dips, being so
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For all Disorders in Horses, Cattle, Calves, Sheep, and Lambs.

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Admirably adapted for all ordinary ailments among Stock, and each preparation can be had separately. Full and easy directions enclosed.

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In consequence of the great reduction in all Patent Medicines, the Proprietor has determined to reduce the Wholesale Prices of following Articles, viz.,

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Ditto ditto	12/6	1/9
TAYLOR'S Condition Powders	18/-	2/6
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TAYLOR'S Cleansing Drinks	5/-	(No retail price.)
TAYLOR'S Foot Rot Mixture.....	7/-	1/-
Ditto ditto	14/-	2/-
Ditto ditto	28/-	3/6

SUBJECT TO THE USUAL DISCOUNT.

T. TAYLOR would call especial attention of the Trade to his "Cleansing Drinks," 5s. per dozen. They are put up in neat Packets, and save the Chemist immense trouble. If preferred, the Drinks can be had without the word "Taylor's"—only "Cleansing Drinks"—thereby enabling the Chemist to affix his own slip label; but to secure this, when ordering ask for those with the pink label.

NO RETAIL PRICE AFFIXED.

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(Manufactured by R. J. JAMES, the Grandson of the Inventor).

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1 oz. pots from	14/- per doz. to	12/- per doz.	1 lb. pots from	24/- 0 per doz. to	24/- 0
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Observe the Trade Mark.—"A Horse's Head on the top of each Pot, and the signature, R. J. James."



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THE MONTSERRAT COMPANY,
LIMITED.

LIME-FRUIT
JUICE.

TRADE



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LIME-FRUIT JUICE CORDIALS.

ALL GUARANTEED

FREE FROM ALCOHOL.

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Copy of a Letter received by the Consignees from Edmund Sturge, Esq., London, England.

Whereas the great popularity which has been attained by the Montserrat Lime Fruit Juice grown on the estates of the Montserrat Company in the West Indies, of which Evans, Sons & Company, Liverpool, are the Sole Consignees, has led unprincipled persons to endeavour to use the name of our family in connection with other and inferior Lime or Lemon Juice which they sell, I think it necessary to state that the whole of the raw Lime Fruit Juice from the estates which were established by me, and are now carried on by the Montserrat Company, is, and has been for the last twelve years, consigned to Evans, Sons & Co., of Liverpool.

London, April, 1883.

(Signed) EDMUND STURGE.

The word "**MONTSERRAT**" is also Registered.

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SOLUBLE FIR-TREE OIL INSECTICIDE.

For destroying all insects and parasites that infest fruit trees and plants, whether at the roots or on the foliage—such as green and black fly, thrip, red spider, American blight, scale and mealy bug, and caterpillars on gooseberry trees and cabbages, &c., &c. Full directions for use on each bottle.

FIR-TREE OIL will cure ringworm, itch (scabies), and nearly all skin diseases, especially those produced by parasites and fungoids, when applied full strength with a brush or sponge once a day.

FIR-TREE OIL diluted with water will destroy lice, fleas, and all parasites which affect animals.

FIR-TREE OIL diluted with water stands unrivalled as a wash for dogs and other animals intended for show.

Sold in Bottles...1/6, 2/6, 4/6, 7/6, and 12/6 each.
Wholesale12/, 20/, 36/, 66/, and 120/ doz.

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Begs to call the attention of the trade to the following specialities, which will be found worthy of a place in the stocks of all Chemists, and the favour of an order, either direct or through the leading London Houses, will much oblige.

Fly Tick and Lear Powder, for dressing Sheep and					
Lamb	in tins, 1/2,	36
Foot Rot Paste	28
Condition Powders for Horses	26
Canino or Dog Soap	tins, 2 1/2,	6d.
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Vermin Killer	3d. 6d., 1	

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FOSTER'S PEARL-COATED ROUP PILL

Retail, 2d., 6d., 1s., and 2s. per box.

These Pills have found great favour wherever introduced, being a successful remedy for this troublesome complaint, the price, 2d., placing them within reach of the poorest keeper of Fowls, supplying a want long in demand, the high prices usually charged precluding all but the well-to-do Fancier.

An Agent wanted in every Town. Sample dozen of the 2d. size, post-free, 1s. 6d.

Agents' addresses periodically advertised in the Poultry Papers, thus bringing them directly before the notice of consumers.

Wholesale Agents: London: W. Edwards & Son, 157 Queen Victoria St., E.C.; Wyleys & Co., 223 Upper Thames St., and Coventry: Southall Brothers & Barclay, Birmingham; Whitehead, Hnlbrook & Co. (successors to W. Mather). Manchester.

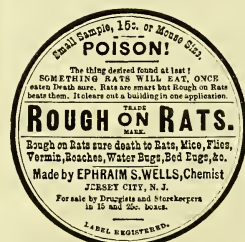
PROPRIETOR:

F. F. FOSTER, Navigation Street, **BIRMINGHAM.**

**Clears out Rats, Mice,
Roaches, Flies, Ants, Mosquitoes,**



**Bed-Bugs, Insects, Skunk, Weasel,
Beetles, and all Vermin.**

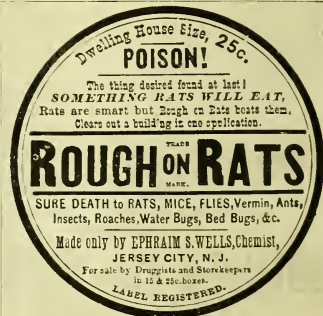


7d.; 4s. 3d. doz.

**LOOK OUT
For Imitations.**

**SEND FOR
Advertising Matter—
your Name on.**

**BUY OF
Your Wholesale
Druggist.**



1s.; 6s. 5d. doz.

No loss by breakage,
leakage, or evaporation.

Will keep a thousand
years in any climate.

No Grease to soil the
drawers or other goods.

Used for Insects, Bugs,
&c., as well as for Rats
and Mice.

Always does the work.
Lowest price of its
kind.

Pays better than any
other.

**ADVANTAGES OF
ROUGH ON RATS**



**CAREFUL
DRUGGISTS,**

Who do not sell arsenic
and strychnine indis-
criminately, and yet do
not wish to incur dis-
pleasure of Patrons by
absolute refusal, can offer
7d. boxes of

"ROUGH ON RATS"
as a compromise sub-
stitute.

MAY BE OBTAINED FROM THE PROPRIETOR,

E. S. WELLS, Jersey City, New Jersey, U.S.A.;

And all Wholesale Druggists and Drug Sundrymen throughout Great Britain.

By Appointment to H.R.H.

BIGG'S

the late Prince Consort.

SHEEP AND LAMB DIPPING COMPOSITION,

For Destruction of Ticks, Lice, &c., and Prevention of Fly.

HAS NOW BEEN USED WITH GREATEST SUCCESS FOR NEARLY HALF A CENTURY.

PAMPHLETS ON APPLICATION.

LEICESTER HOUSE, GREAT DOVER ST., BOROUGH, LONDON.

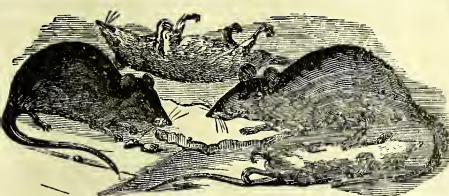
In any Town where no Agent exists Chemists are requested to apply.

WHOLESALE AGENTS FOR CANADA AND UNITED STATES—

Sugden Evans & Co., Montreal, Canada, and Rouse's Point, New York.

BATTLE'S VERMIN KILLER.

Mice eat it readily, and Die on the spot.



Has an immense Sale, and wherever introduced never fails to give satisfaction.—Mice appear attracted to it as by magic, eat it readily, tumble over, and die on the spot. Rats usually die in their runs.—Purses troubled with Vermin may be cleared at once, either from Stacks, Houses, or Ships.

TESTIMONIALS.—Thousands might be published.

From Mr. THOMAS COLTON, Agent for Selby.—A friend of mine purchased a Packet of your VERMIN KILLER last night, doubting its efficacy; to-day he called in to say that he had found fifteen dead mice, and had only used part of a packet.—From Mr. EDWARD STURDY, Flemington Mills.—I duly received by post the Packet of your VERMIN KILLER, and found it as represented in your advertisement. It speedily destroyed all the mice in my granary. I enclose 2s. for two more Packets.—Leeds, November 6th, 1897.—I have tried BATTLE'S VERMIN KILLER, and have found it most effectual in clearing my premises of LARGE QUANTITIES OF RATS.—THOMAS B. CROSLAND.—Mr. Stead.

Sold in Packets, 3d., 6d., and 1s. each.

SOLE PROPRIETOR:

Mr. J. R. BATTLE, Chemist, Lincoln, England.

No Chemist or Storekeeper should be without a supply.

CRAVEN'S VERMIN POISON

In Packets, 2d., 3d., 6d., and 1s.

Chemists who have not yet tried "CRAVEN'S VERMIN POISON" are respectfully requested to send Trial Order.

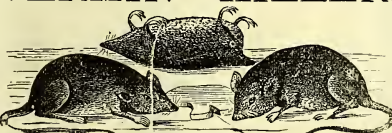
Sold by most of the London and Provincial Wholesale Houses, or sent direct, carriage paid. Very liberal terms.



SAMPLES AND TESTIMONIALS POST FREE.

F. CRAVEN, Chemist, Batley Carr, DEWSBURY.

E. B. TAYLOR'S INFALLIBLE VERMIN KILLER.



The Rev. Mr. Lewis (late Pastor of St. Stephen's Church, Rochdale) says that a small packet of the Destroyer cleared his house of Mice in a very short time.

Prepared by E. B. TAYLOR, Operative Chemist, 7 Whitworth Road, Rochdale.

Sold in Packets, 2d., 3d., 6d. and 1/- each, by all Chemists.

AGENTS WANTED EVERYWHERE.

100 Rats destroyed for a Shilling by BARBER'S PHOSPHOR PASTE.

WRAPPED NEATLY FOR THE COUNTER.

Handsome attractive Posters supplied; if conspicuously placed will command constant sale.

Kills Rats, Beetles, &c. THE DEAD VERMIN WITHOUT SMELL.



Guaranteed the best in destroying Paste in the world.

2d., 6d., 1s., 2s. 6d., and 5s. Tins. Also

BARBER'S VERMIN KILLER.

SOLD THROUGHOUT THE WORLD.

Kills Mice upon the spot. In packets, 3d., 6d., and 1s.

Be not deceived with worthless imitations. Observe the Name!!!

CORNS! CORNS!! BUNIONS!!!

Are always Cured by the use of

BARBER'S CORN AND BUNION PLASTERS.

They never fail in giving relief in 10 minutes. Testimonials accompany each Box. Will well repay anyone to introduce.

8s. 6d. and 21s. per dozen, remittance with order, free per post.

WORKS, SALISBURY. ESTABLISHED 1848.

Special Quotations to Shippers. Supplied by all the London Wholesale Houses.

INDEX TO ADVERTISEMENTS,

SEE PAGES 39-40.

SILICATED CARBON FILTERS.

SYPHON FILTERS FOR TRAVELLERS.

By means of these Filters pure and perfectly wholesome water may be drunk from any pond or stream by simply immersing the Filter therein and drawing the water through the tube by suction.

Each of these portable Filters may be



No. 20.

used as a Siphon by placing it in a vessel of water, then drawing the water by the mouth, and allowing the flexible tube to hang over the side below the Filter. When once set in operation their action is continuous.

They are readily cleaned from sedimentary matter by merely blowing through the tube, and brushing the surface of the filtering medium.

- | | |
|--|------|
| A.—Pocket Filter, $2\frac{1}{2}$ inches diameter, in porcelain, with glass mouthpiece, in decorated metal box | 2 6 |
| B.—Ditto, $3\frac{1}{2}$ inches diameter, in best stoneware | 5 0 |
| Ditto, with silver-plated tap | 7 0 |
| C.—Emigrant's, 5 inches diameter, with silver-plated tap | 12 0 |
| G.—Pocket Filter, for carrying over shoulder, as supplied to the Forces in Abyssinia and Zuluand, and to the Ashantee and Egyptian Expeditions | 3 6 |
| H.—Ditto, nickel-plated, designed by Major Fraser, R.E., and specially recommended by the Horse Guards for Officers' kits | 5 0 |



DINING-ROOM FILTER, No. 22.

MADE IN MARBLED CHINA.

Size A holds about two gallons; size B, five gallons.

PRICES.

- | | |
|---------------------------------|-------|
| A | 35s. |
| B | 80s. |
| A, with Ice Compartment | 42s. |
| (New Patent.) | |
| B, with Ice Compartment | 100s. |
| (New Patent.) | |

The large size (B) is specially adapted for Hotels, Refreshment Rooms, Luncheon Bars, &c.

TABLE FILTER, NO. 24.

Made of stout glass, in 1, 2, and 3 pint sizes, the filtering medium being securely fitted into the bell-funnel, so that it is not liable to become loose, or to allow unfiltered water



to pass. This Filter is peculiarly suited for the Bedroom and for Table use, affording a ready and simple means of obtaining at any time freshly-purified water.

PRICES.

- O, 2s. 6d.; A, 4s.; B, 5s. 6d.
Engraved Vine Pattern—O, 3s. 6d.; A, 5s. 6d.; B, 7s. 6d.

POROUS TERRA COTTA FILTER, NO. 29

Shape of this Filter as Fig. No. 24.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.

SILICATED CARBON BLOCKS.

2in., 1s. 6d.; $2\frac{1}{2}$ in., 2s. 6d.; $2\frac{1}{2}$ in., 3s.; $3\frac{1}{2}$ in., 4s.; $4\frac{1}{2}$ in., 5s. 6d., &c.

SPECIAL QUOTATIONS FOR QUANTITIES.

REFRIGERATOR FILTER, NO. 25.

Made in Porous Terra-Cotta Ware,

Which acts with remarkable power as a cooler, and renders this Filter invaluable, especially in Tropical Climates,

AFFORDING A

COOL DRAUGHT OF PURE WATER.

- Price, with Silver-plated Tap 31s. 6d.
Ditto, ditto, with Ice Compartment 42s. 0d.
Capacity Two Gallons.

Specially adapted for Tropical Climates.



SILICATED CARBON (Regd.) ASCENSION FILTERS.

The most efficient known Filter

PRICES:

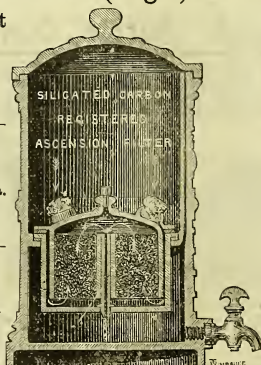
No. 38.

- | |
|----------------------------|
| 1 Pint, $2\frac{1}{2}$ ea. |
| 2 " 4/- |
| 3 " 5/6 |

The Water passes upwards through the Silicated Carbon in the direction shown by the Arrows in the Drawings.



NO. 38.



NO. 37.

for Table and Domestic Use.

PRICES:

No. 37.

- | |
|------------------|
| 1 Gal., 18/- ea. |
| 2 " 26/- |
| 4 " 38/- |

The inner blocks being movable, by attaching an India-rubber tube they can be converted into Pocket or Travelling Filters.



SECTION OF NO. 38.

WRITE FOR FULL LISTS TO THE

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

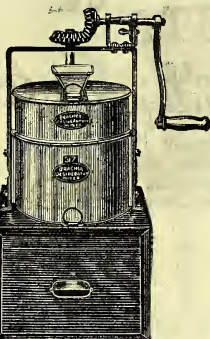
ESTABLISHED 1849.

CURRY, LLOYD & CO.

(Late ALLEN PEARCE & CO.),

DRUGGISTS' SUNDRYMEN,
TRUSS AND SURGICAL APPLIANCE MAKERS,
10 and 11 BATH STREET, BRISTOL.

NEW PRICE LIST (1882) WILL BE SENT ON RECEIPT OF BUSINESS CARD.



BRACHER'S PATENT "Desideratum" Mixing Machines

Admirably adapted for mixing all kinds of powders, heavy or light, in the shortest possible time, thereby superseding to a great extent the use of the Pestle and Mortar, supplying a long-felt want amongst Chemists and Druggists, Grocers, Confectioners, Drysalters, Colour Merchants, and Manufacturers, and are capable of mixing either large or small quantities more quickly than by any other method. They can be worked either *with* or *without* the cover, are easily cleaned, and are, without doubt, the best and cheapest Mixing Machines ever invented; indeed, it would scarcely be thought possible that the articles could be so thoroughly blended in such an incredibly short time.

MANUFACTORY: 77 HIGH STREET, WINCANTON.

THE DRUGGISTS' CIRCULAR & CHEMICAL GAZETTE

Is Published Monthly, at

36 BEEKMAN STREET, NEW YORK.

SEVEN SHILLINGS and SIXPENCE Sterling, postage prepaid.

By special arrangement Subscription to "The Chemist and Druggist" and "The Druggists' Circular" is fixed at Fourteen Shillings and Sixpence (14/6). Subscribers to "The Chemist and Druggist," whose subscriptions are now in force, can receive "The Druggists' Circular" for one year by remitting 4/6 for the purpose to the Publisher of "The Chemist and Druggist."

The Druggists' Circular usually contains Forty-eight quarto pages of extra large size, consisting of literary matter and advertisements. It has reached the 24th year of publication, and has a much larger circulation than any similar periodical issued in the United States.

Subscriptions and Advertisements can be arranged for in Great Britain through "THE CHEMIST AND DRUGGIST," 42 Cannon Street, London.

INDEX TO ADVERTISEMENTS.

See pages 39, 40.

THE MORGAN CRUCIBLE COMPANY

(THE PATENT PLUMBAGO CRUCIBLE COMPANY),

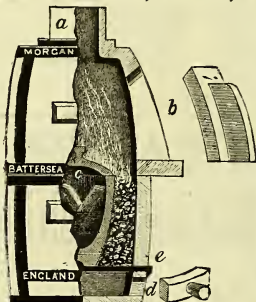
Sole Manufacturers of MORGAN'S and SALAMANDER CRUCIBLES.

PORTABLE FURNACES.

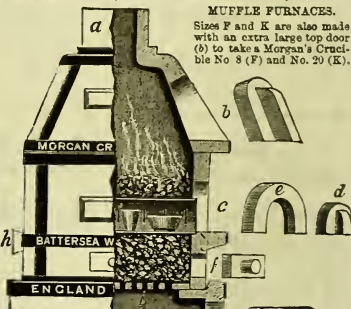
IRON BOUND. EXTERIOR DIMENSIONS.

For MELTING GOLD, SILVER, COPPER, &c.

For ASSAYING, DENTAL WORK, &c.



a. Socket on which to fix iron chimney. b. Door for putting in crucibles and for cooling. c. Crucible. d. Door for regulating draft. e. Iron fire bars.



MUFFLE FURNACES.

Sizes F and K are also made with an extra large top door (b) to take a Morgan's Crucible No 8 (F) and No. 20 (K).

No.	Diam. in.	Diam. milli.	Height. in.	Hauteur. milli.	For Morgan's Crucible.	Price. £ s. d.
A	9 1/2	233	17 1/2	445	No. 2	1 0 0
B	9 1/2	248	20	508	4	1 5 0
C	11	280	22	559	6	1 10 0
D	13 1/2	349	26	660	8	2 5 0
E	14 1/2	369	28	712	12	3 0 0
F	18	457	32	813	16	4 0 0

No.	Diam. in.	Diam. milli.	Height. in.	Hauteur. milli.	Furnace. £ s. d.
BE	12 1/2	323	24 1/2	622	2 0 0
CE	13 1/2	337	25 1/2	642	2 5 0
DE	14 1/2	369	27	686	2 10 0
OD	15 1/2	394	28 1/2	724	3 0 0
OE	16 1/2	414	29 1/2	749	3 10 0
KE	17 1/2	443	30 1/2	762	4 0 0
K	23	583	43	1124	8 0 0



MUFFLES.

With or without apertures.



No.	Long. in.	Wide. in.	High. in.	Price. per doz.	No.	Long. in.	Wide. in.	High. in.	Price. per doz.
A	7	3 1/2	2 1/2	12	G	11	4	3 1/2	21
B	7 1/2	4 1/2	2 1/2	15	H	10 1/2	4 1/2	3 1/2	25
C	8	5 1/2	3	18	J	12	6	4	33
D	8 1/2	6	3 1/2	21	K	14	8	5	43
E	9	6 1/2	3 1/2	24	L	15	9	6	54
F	10	6	4	27					

Sizes A to F, also K, are suited for the Furnaces of the same letters.

G to L have one slit at back only, none at sides.

In addition to those priced above, Muffles are made of all shapes and sizes, suitable for Assayers, Enamellers, Dentists, &c.

Diam. in.	Diam. milli.	Per doz.	Diam. in.	Diam. milli.	Per doz.
2 1/2	664	1 3	4	102	1 1/3
3	677	1 6	5	127	2

Larger sizes to order.

Diam. in.	Diam. milli.	Price.	Diam. in.	Diam. milli.	Price.
1	626	3	2 1/2	664	5
1 1/2	632	3 3	3	670	6
1 3/4	638	4	3 1/2	677	7 1/2
2	651	4 6	4	689	9
2 1/4	657	4 6	4 1/2	102	10 1/4

SCORIFIERS. (PER GROSS.)



ASSAY CRUCIBLES.

FOR COPPER.

CORNISH FORM AND QUALITY (JULEFF).

No.	High. in.	Hauteur. in.	Diam. in.	Price. per doz.
Two of	2 1/2	683	2	677 1/2
Single..	2	651	2 1/2	684 1/2

All sizes and shapes to order.

FOR TIN.

No.	High. in.	Hauteur. in.	Diam. in.	Price. per doz.
3 1/2	683	3	677	6

Covers, 1s. 6d. per doz.

FOR LEAD.

3 in. diam., .077 diam. milli., with Covers, 2/3 per dozen.

Other sizes to order.

FOR GOLD.

THESE ARE PERFECTLY SMOOTH, AND OF THE CORRECT POROSITY.

No.	Diam. in.	Diam. milli.	Height. in.	Hauteur. in.	Per doz.
A	1 1/2	627	1 1/2	627	2
B	1 1/4	632	1 1/4	632	2
C	1 1/2	638	1 1/2	638	2
D	1 1/4	645	1 1/4	645	2

Covers for either size. 6d. per doz.



POROUS BATTERY CELLS OF SUPERIOR QUALITY.



PLAT. WITH BARS.

LIST OF PRICES ON APPLICATION.

PLAT.

NOTICE.—Care should be taken in all instances, when ordering, to specify the Crucibles, &c., manufactured by THE MORGAN CRUCIBLE CO. (Sole Manufacturers of Morgan's), Battersea Works, LONDON, S.W.

Sole Manufacturers of JULEFF'S Cornish Crucibles for Copper, Tin, &c.

CONROY'S MALT COFFEE.



Conroy's Malt Coffee has received the following Certificates amongst many others.

"Undoubtedly a nourishing and health producing article of diet."—*Edward Davies, F.C.S., F.I.C., &c., Liverpool.*

"Most beneficial in cases of atonic indigestion."—*E. Adam, M.R.C.S., England.*

"Genuine Coffee gives me indigestion. Your Malt Coffee is entirely free from this objection."—*S. Whitaker, Waterfoot, near Manchester.*

"Dyspeptics who could never take the ordinary coffee or date coffee can take the Malt Coffee, and with the most beneficial effects."—*Dr. Lloyd, Bangor.*

"I have frequently recommended your Malt Coffee in cases of weak digestion, invariably with satisfactory results."—*W. Bell, Senior Surgeon to the Convalescent Institution, New Brighton.*

"A most excellent combination."—*A. W. Postans, F.C.S., London.*

"Very palatable and marvelously easy of digestion."—*Society, October 21, 1882.*

"It can in many cases be readily taken when ordinary coffee disagrees."—*British Medical Journal, July 29, 1882.*

"Refreshing, and at the same time nutritious, spirit-infusing, yet absolutely non-intoxicating, palatable and wholesome to an eminent degree."—*The Colonies and India, 29th Sept., 1882.*

"Both pleasing to drink, and adds greatly to digestion."—*The Anti-Adulteration Review, October, 1882.*

"The combination ought, therefore, to improve the health of those who consume it."—*Globe.*

"Malt Coffee, the new temperance beverage, would seem to make the nearest approach to what is required. Pure malt is in its own way as beneficial as pure coffee, being especially strengthening and nutritious."—*Morning Post.*

IT IS MADE IN THE SAME WAY AS ORDINARY COFFEE.

Pamphlets containing Testimonials from Eminent Scientific, Medical, and other Gentlemen of the highest position, may be had Free for Gratuities Distribution.

In cases of 56lbs. each, put up only in 1-lb. and 1/2-lb. tins. Each Tin is protected by an Excise Stamp under the Regulations of the new Inland Revenue Bill of August 3, 1882.

PREPARED ONLY AT THE

MALT COFFEE WORKS, 34 FLEET STREET, LIVERPOOL.

SOLE PROPRIETORS—

EVANS, SONS & CO., 56 Hanover Street, LIVERPOOL.

EVANS, LESCHER & WEBB, 60 Bartholomew Close, LONDON, E.C.

QUOTATIONS ON APPLICATION.

MAWER'S TARAXACUM COFFEE,

PREPARED BY AN IMPROVED PROCESS BY WHICH THE VIRTUES OF THE TARAXACUM OR DANDELION ROOT ARE RETAINED IN A HIGH DEGREE.

In Tins, 8d., 9d., 1/0, and 1/6.

Is by far the best in the market. Excellent in quality, neatly packed, cheap and economical, and a very saleable article.

A LARGE BUYER writes:—"Our customers ask for Mawer's Taraxacum, and will have no other, and we are doing well with it."

A NOBLE EARL, the oldest in the House of Peers, sends the following message:—"Present my compliments to Messrs. Mawer, and tell them I like their Taraxacum, and it agrees with me very well; and request them to send the usual number of tins."

LONDON AGENTS.

HANSON, SON, EVISON, & BARTER.

BARCLAY & SONS, EDWARDS & SON.



BEWARE OF IMITATIONS.

MAWER'S TARAXACUM COFFEE.—*Testimonial.*—"Lady Charlotte Hobart-Hampden has bought Mr. Mawer's Taraxacum Coffee for years, and is able to say that it is much preferred to the other kinds of Coffee, and that it is found more economical.—Hampden House, Bucks."

IMPORTANT MEDICAL TESTIMONY.—"I believe Mawer's Taraxacum Coffee to be a very useful preparation for persons suffering with weakly stomachs or sluggish and inactive livers. It is light and easily digested, and forms a pleasant and palatable beverage for breakfast or supper."

HENRY B. BUCKLEY, L.R.C.S.I., L.R.C.P.E., &c., &c.

See Analytical Report by Professor ATTFIELD, F.R.S. &c., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, on every tin.

Handbills, &c., sent on application to

MAWER, EMERY & CO., LEIGHTON BUZZARD.

THE CHEAPEST AND BEST SAUCE.



SPECIAL QUOTATIONS TO LARGE BUYERS.
In Bottles and Half Bottles at half the usual prices.

SOLE MANUFACTURERS—

EVANS, SONS & CO.,

58 Hanover Street, Liverpool.

LONDON: EVANS, LESCHER & WEBB.

MUSTARD.

FINCH, RICKMAN & CO.'S

Genuine Qualities

Are made from the finest mustard seeds only. Their compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

6 BROKEN WHARF, UPPER THAMES STREET,
LONDON.

SEVEN PRIZE MEDALS AWARDED.

GOODALL'S HOUSEHOLD SPECIALITIES. YORKSHIRE RELISH.

THE MOST DELICIOUS SAUCE IN THE WORLD.

This cheap and excellent Sauce makes the plainest viands palatable, and the daintiest dishes more delicious. To Chops and Steaks, Fish, &c., it is incomparable. Sold by Grocers, Oilmen, Chemists, &c., in Bottles, 6d., 1s., and 2s. each.

CAUTION.—On each Yorkshire Relish Label is a Willow Pattern Plate and name, GOODALL, BACKHOUSE & CO. No other is genuine.

Goodall's Baking Powder

THE BEST IN THE WORLD.

Makes delicious Puddings without Eggs, Pastry without Butter, and beautiful Light Bread without Yeast. In 1d. Packets; 6d., 1s., 2s., and 6s. Tins.

Goodall's Quinine Wine

The best, cheapest, and most agreeable tonic yet introduced. The best remedy known for Indigestion, Loss of Appetite, General Debility, &c. Restores delicate individuals to health and vigour. In Bottles, 1s. 1d. and 2s. 3d. each.

Goodall's Custard Powder

For making delicious Custards without eggs, in less time and at half the price. Unequalled for the purposes intended; will give the utmost satisfaction if the instructions given are implicitly followed. Sold in Boxes 6d. and 1s. each.

Goodall's Ginger Beer Powder

Makes Three Gallons of the best Ginger Beer in the World for 3d.

Is a delicious and invigorating beverage, possessing valuable medicinal properties. It is cooling in its nature, and a most wholesome beverage for both winter and summer. Sold in Packets, 3d. and 6d. each.

Goodall's Blanc Mange Powder

Is acknowledged by all to be the most convenient and economical preparation ever introduced, as, by its use, a most Rich and Delicious Blanc-mange may be produced in a few minutes at a trifling cost, and may be had of various flavours, i.e., Raspberry, Strawberry, Lemon, Almond, and Vanilla. Sold in Packets, 6d. and 1s. each.

Goodall's Egg Powder

'Acknowledged to be the only real substitute for eggs yet discovered.' Its action on Cakes, Puddings, &c., &c., resembles that of the egg in every particular, enriching them in colour and flavour, rendering them most wholesome and nutritious. One penny packet will go as far as four eggs; and one sixpenny tin as far as twenty-eight. In 1d. Packets; 6d. and 1s. Tins.

SOLE MANUFACTURERS—

GOODALL, BACKHOUSE & CO., White Horse Street, Leeds.

A Monthly Price List of Druggists' Sundries, Patent Medicines, &c., can be had post free on application.

KREOCHYLE BARFF AND WIRE. LIQUID MEAT.

SPECIALTY FOR INVALIDS.

To be obtained of Messrs. BARCLAY & SON, Farringdon Street, Messrs. ROUSE & CO., Wigmore Street, Messrs. BURGOYNE, BURBIDGE & CO., Coleman Street, Messrs. NEWBERRY & SON, King Edward Street, of all principal Chemists, and of "THE KREOCHYLE COMPANY," BIRKBECK ROAD, LEYTONSTONE, E.

Prices—Retail, 5s. per pint; 2s. 9d. per half pint; 1s. 6d. per quarter pint.

E. LAZENBY & SON (6 EDWARDS STREET, PORTMAN SQUARE.) Sole Proprietors of the Celebrated Receipts and Manufacturers of the Pickles, Sauces and Condiments so long and favourably distinguished by their name, beg to remind the public that their labels are affixed to the choicest description of goods only, that every article prepared by them is guaranteed as entirely unadulterated and may be obtained of Grocers, Italian Warehousemen and others.

HARVEY'S SAUCE.—CAUTION.—The admirers of this Celebrated Sauce are particularly requested to observe that each bottle bears the well-known label signed "ELIZABETH LAZENBY"; this label is protected by perpetual injunction in Chancery of the 9th July 1858 and without it none can be genuine.

18 TRINITY STREET, LONDON. S.E.

Elizabeth Lazenby

"RAMORNIE," LIEBIG'S EXTRACT OF MEAT.

REDUCED PRICES!!!

7-lb. Tins	per lb.	5/11	each	41/5
1-lb. Jars		6/2	per doz.	74/0
1-lb. Jars		6/4		33/0
4-oz. Jars		8/7		18/9
2-oz. Jars		7/0		10/8
1-oz. Jars		7/8		5/9

Write for Detailed Price List to the Australian Meat Co., 9 & 11 Fenchurch Avenue, E.C.

10 lbs. Carriage Free.

SPECIAL NOTICE & CAUTION.

BRAND & CO.

The Original Manufacturers of Essence of Beef (green label under wrapper), and other Specialities for Invalids, have

NOT REMOVED

From their SOLE ADDRESS, No. 11
LITTLE STANHOPE STREET, MAY-
FAIR, W., and caution the trade to

BEWARE of IMITATIONS.

BRAND & CO'S
SPECIALTIES FOR INVALIDS
ESTD 1835
ESSENCES OF BEEF,
MUTTON, VEAL & CHICKEN,
BEEF TEA, TURTLE SOUP & JELLY,
MEAT LOZENGES &c.
SOLE ADDRESS
No. 11,
LITTLE STANHOPE
ST.
MAYFAIR, W.

NELSON'S EXTRACT OF MEAT.

CHEAPEST IN THE WORLD.—HALF THE PRICE OF LIEBIG.

OUNCE PACKETS, 4d. EACH.

FIRST CLASS MEDAL, NEW ZEALAND, 1882.

PHILLIPS & SONS' DANDELION COFFEE.

Castle Square, SWANSEA; 12 Arthur Street West, LONDON BRIDGE.

Be particular in noting London Address, as we have no connection with a Retail Firm of same name.

FRY'S MALTED COCOA

(PATENTED).

A Combination of FRY'S Pure COCOA EXTRACT with
ALLEN & HANBURYS' CONCENTRATED EXTRACT OF MALT

J. S. FRY & SONS, BRISTOL AND LONDON.

CHEMISTS' TEA AGENCY.

WALKER & DALRYMPLE'S

BROKEN-LEAF TEA, 1s. 8d. per lb.

A MONEY SAVING TEA. ABSOLUTELY PURE.

The small leaf from some of the finest India and China Teas. Produces
 a Tea in the cup, stronger, richer, and cheaper than most whole-leaf Teas.
 Agents appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S

INTERMEDIATE TEA, 2s. per lb.

BEST at the PRICE EVER SOLD. Great strength and a most useful
 Tea where there is a large consumption. Recommended to all who wish to
 SAVE in their Tea. Agents appointed, where unrepresented, throughout
 the United Kingdom.

WALKER & DALRYMPLE'S TEAS.—

AGENTS APPOINTED, where unrepresented, throughout the United Kingdom.

Prospectus and Samples Free on Application.

Warehouses, 154 and 155 WHITECHAPEL ROAD, LONDON.

P.O.O. payable at head office. Bankers, the National Provincial Bank of England.

THE WELL-KNOWN "LONDON TEAS"

ARE ONLY SUPPLIED WHOLESALE BY

THE GREAT TOWER ST. TEA CO. (LIMITED).

Siftings from Fine Tea for Retail at 1/4 per lb.

The London Whole-Leaf Tea " 1/8 "

The London Broken Tea " 1/8 "

The London Two-Shilling Tea " 2/- "

The London Two-Shilling Indian Tea " 2/- "

The London Assam Broken Tea " 2/8 "

AND OTHER FINER BLENDS.

Order a small Sample Parcel. The Quality never deteriorates.

A. HORATIO JONES, Managing Director.

The Great Tower Street Tea Co. (Limited), 39 Great Tower Street, London, E.C.

PURE SOLUBLE COCOA.

VAN HOUTEN'S COCOA

Is the only guaranteed Pure Soluble Cocoa, better and cheaper than any
 other Cocos, Cocoa Extract, or any Chocolate.

The *British Medical Journal*, March 27, 1869, says:—"Van Houten's
 Cocoa is admirable. In flavour it is perfect, and it is so pure, well pre-
 pared, and rich in alkaloids," &c., &c. See also the *Lancet*, &c.

Sold (full weight) in 1-lb., 1/2-lb., and 1-lb. Tins, at 4s., 2s. 1d., and 1s. 1d.
 Sample Tins, sufficient for a family, free of charge, through your Grocer
 or Chemist, or from

THE CHIEF DEPOT, 6 & 7 COLEMAN STREET, LONDON, E.C.

TEA AGENCY.

Trade Mark, "FATHER TIME", Registered.

HENRY ROUS'S Packet and Loose Tea.

Agents appointed where unrepresented throughout the United Kingdom
 Samples and Prospectus post free. Bankers, the National Provincial
 Bank of England.—Warehouses, 376 to 378 Edgware Road, London, W.

KANGRA VALLEY

Indian Tea Growers' Association,

7 NEW COVENTRY STREET,

LEICESTER SQUARE, W.

PROSPECTUS.

The object of the Planters who have formed this Association,
 is to establish a business for the direct supply of Tea from the
 Plantations of the Kangra Valley to the public.

So great a success has attended the efforts of the promoters
 of the Association that it has become necessary that one of the
 Planters should reside in England to manage its affairs.

The distinctive feature of the business of this Association is
 that the Tea is delivered to consumers in the original One Pound
 tin-foil lined parcels in which it is packed in the Valley, and it
 is guaranteed to be absolutely pure.

The Association hopes that it may, without presumption,
 safely recommend this Tea to the public, believing that it will
 continue to give the greatest satisfaction.

Vide Allen's Indian Mail, Feb. 28, 1883:—"*** We can speak
 from actual knowledge of the excellence of the Teas of the 'Kangra
 Valley Indian Tea Growers' Association,' and as in advertising them we are
 also benefiting those who take advantage of their enterprise, we append
 their modest prospectus, which promises no more than they are well able to
 perform."

These Teas, retailing respectively at 4/3, and 2/6, can be
 purchased in any quantity, either direct from the Store, 7 New
 Coventry Street, or from Messrs. Barclay & Sons, 95 Farringdon
 Street, Agents to the Association.

Special Terms granted to all Chemists and Druggists, to
 whom the Teas, on account of their absolute purity, are
 particularly recommended.

NESTLE'S MILK FOOD.

THE

"PERFECT FOOD FOR INFANTS."

NESTLE'S MILK FOOD is prepared at Vevey, Switzerland, from the pure milk of Alpine-fed cows, the finest wheaten flour and sugar, combined in exact proportions to imitate closely the natural food for infants. It is thoroughly cooked, and reduced to a fine powder, perfectly soluble in water, requires only the simple addition of water to prepare it for use—in this respect having the advantage over all other foods.



NESTLE'S MILK FOOD is highly recommended by the best medical authorities in all parts of the globe as a perfect diet. Nestle's is the original and genuine Milk Food or Powder. The extensive demand for this Food, its well-known superiority and universal recognition by the medical profession, has produced the inevitable imitations. The Trade and the Public are hereby cautioned. Nestle's Milk Food has stood the test of years. Take no other under any pretence whatever.

NESTLE'S MILK FOOD is put up in Tins, packed in lined cases when ordered specially for the Export Trade. Is highly concentrated, and in a perfectly dry state. Will keep good in any climate.

For exportation the Food is a very desirable article, and is much sought after among people of all nationalities in all parts of the globe. Its advantage as an article for export consists in

Its uniform quality. Its purity. The simplicity of its preparation for use.

Its freshness in warm climates, where cow's milk soon becomes tainted.

Foreign and Colonial Importers should obtain their supplies through any Wholesale Firm in Great Britain, or Shipping Agent, thus ensuring fresh stock and lowest prices.

LONDON DEPOT: 9 SNOW HILL, E.C.

 **SEVEN INJUNCTIONS** have been granted during the past few months.



CAUTION! "YORKSHIRE RELISH."



NOTICE IS HEREBY GIVEN that in several actions instituted by Messrs. GOODALL, BACKHOUSE & CO., of LEEDS, Injunctions have been recently granted by Judges of the Chancery Division of the High Court of Judicature, restraining several persons from using several Counterfeits of Messrs. GOODALL, BACKHOUSE & CO.'s Labels, and in particular against the use of the words "YORKSHIRE RELISH." The sole and exclusive right to the use of which words having been finally established by the above Firm, they will take immediate proceedings against parties manufacturing or offering for sale Sauce under the above title, not being of the manufacture of Messrs. GOODALL, BACKHOUSE & Co.

Information may be given to the undersigned,

J. SEYMOUR SALAMAN,

12 KING STREET, CHEAPSIDE, LONDON,

Solicitor to the Trade Mark Protection Society.

SPRATTS PATENT DOG MEDICINES AND SOAP. TASTELESS APERIENT BISCUIT FOR DOGS.

The Field, 28th January, 1892, says:—"The satisfactory results we obtained leave no doubt in our mind as to the value of the invention."

"LOCURIUM"

(PATENT)

CURES ALL KINDS OF CUTS, BRUISES, AND WOUNDS IN MAN AND ANIMALS.

"SPRATTS PATENT," Bermondsey, S.E., or order through your Wholesale House.

Wholesale Agents for the Soap and Dog Medicines:—Barclay & Sons; Sanger & Sons; Sutton & Co.; F. Newbery & Sons; Lynch & Co.; R. Hovenden & Sons, London; Raimes & Co., Edinburgh, York, and Liverpool; Ravensdale Mill Co., Dublin; Woolley, Sons & Co., Manchester; Taylor, Gibson & Co., Newcastle-on-Tyne; Goodall, Backhouse & Co., Leeds; and of all Wholesale Houses.

THE ONLY PERFECT ENEMA OBTAINABLE.

INGRAM'S IMPROVED HIGGINSON ENEMA AND SYRINGE APPARATUS

(BY ROYAL LETTERS PATENT).

Made without Seams or Ribs by our Patent Process of dipping in a solution of India Rubber, thus adding great strength and durability.

CAUTION.—The only
Enema made without
Ribs.

NONE GENUINE UNLESS STAMPED WITH NO. OF PATENT, 1474.



All Imitations may be
detected by the Ribs on the
Surface, and are always
liable to split.

WARRANTED NOT TO SPLIT.

A.—Metal Pin Valve.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA is perfectly smooth on the surface, will not become hard or sticky, will not leak, and will not admit air while injecting or refilling. Specially prepared to resist the heat of tropical countries.

The great superiority of INGRAM'S IMPROVED PATENT SEAMLESS ENEMA over all others has given rise to VARIOUS IMITATIONS, and it has become imperative that the Patentees should, in order to PREVENT DECEPTION, explain the PROCESS OF MANUFACTURE OF THEIR ENEMA and the MODE OF MANUFACTURE OF IMITATIONS thereof, as they have UNDENIABLE PROOF that INFERIOR ENEMAS are positively BEING SOLD as their "ADVERTISED" PATENT SEAMLESS ENEMA.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA is made by a NEW PATENT PROCESS, viz.: By repeated dipping in a solution of India Rubber until the required substance is attained. This process adds greatly to its STRENGTH and DURABILITY, and, at the same time, dispenses with ALL SEAMS, which, as is well known, are weak points in an Enema. This improved mode of manufacture (the result of long study and experience) enables the Patentees to produce a PERFECT ENEMA WITHOUT SEAMS, thus overcoming the great fault to be found in ALL other Enemas, viz.: SPLITTING and LEAKING, which has always been a source of trouble.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA is fitted with IMPROVED VALVES, which prevent the admission of air with the fluid and CAN at any time BE REPAIRED, if necessary.

CAUTION.—Imitations of INGRAM'S IMPROVED PATENT SEAMLESS ENEMA are made of several pieces of Sheet India Rubber, which are cemented together and shaped in a mould, thus PRODUCING RIBS ON THE SURFACE, and ENEMAS SO MANUFACTURED ARE ALWAYS LIABLE TO SPLIT AND LEAK AT THE SEAMS, AND THUS TO BECOME QUITE USELESS.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA may be distinguished from ALL IMITATIONS by its ENTIRE FREEDOM FROM RIBS OF ANY DESCRIPTION on its surface, and by having an IMPROVED METAL PIN VALVE at the suction end A; and it is acknowledged to be the ONLY PERFECT ENEMA OBTAINABLE.

Patented in England, No. 1474, April 12, 1878; in France, No. 126,909, October 11, 1878; and in America, No. 212,939, March 4, 1879.

To be obtained of all Surgical Instrument Makers, Druggists' Sundriesmen, Chemists and Druggists, in the three following qualities:—

- No. 1a. Highly Polished, in Red, Green, Blue, Black, or White.
- No. 1b. Unpolished, in Red, Green, Blue, Black, or White.
- No. 2. Unpolished, in Drab only.

RECEIVED HIGHEST AWARDS—MEDALS AND DIPLOMAS—OVER
ALL EUROPEAN AND AMERICAN COMPETITORS.

PHILADELPHIA, 1876,
MELBOURNE, 1880,
NEW YORK, 1881,

PARIS, 1878,
NEW YORK, 1880,
ATLANTA, 1881,

NEW YORK, 1879,
MATANZAS, 1881,
CHARLESTON, 1883.

SEABURY & JOHNSON,

MANUFACTURERS OF

India Rubber, Medicinal, Adhesive,
Bunion, Corn, Court,

PLASTERS

Kid, Leather, Mustard, Spread,
Pharmaceutical and Surgical

Of every description, in the most approved form. Also, Absorbent, Borated, Salicylated and Carbolated Cotton. Antiseptic Gauze, Bandages, Cotton Wool, Cutta Percha Tissue, Lint, Oil Silk and Muslin, and every variety of Surgical and Antiseptic Dressings.

SPECIALTY:—Pharmacopœia & Surgical Plasters, in India Rubber Combination, Porous & Spread.

Office & Salesroom, 1 & 2 Australian Ave., London, E. C., England.

TERMS FOR 1882.

MONTHLY SETTLEMENTS. ONE PER CENT. FOR CASH WILL BE ALLOWED, PROVIDED BILLS ARE REMITTED FOR WITHIN TEN DAYS FROM DATE OF SHIPMENT, NOT OTHERWISE.

DISCOUNTS:—Goods to be selected from our List at pleasure.

Orders amounting to £25, nett, will be subject to - - - 20 per cent. discount.
" " " 10, " " " " " 15 " "
" " " 5, " " " " " 10 " "

Orders under £5, nett, - - - long prices will be charged without discount.

CARRIAGE ALLOWED OR PREPAID ON £25, NETT, ORDERS ONLY.

EVERY ARTICLE WARRANTED.

Pharmacopœia & Medicinal India Rubber Porous Plasters.

Packed two dozen in a box. Size, 5x7½ inches.

	per gross,	s. d.
Aconite	300	0 0
Arnica	280	0 0
Belladonna	214	0 0
Capsicum	200	0 0
Opium	280	0 0
Iron	312	0 0
Poor Man's	280	0 0
Strengthening	110	0 0
Witch Hazel	300	0 0

Special Formula made to order. A full line of Plain Spread and Porous at same rates.

YARD ROLLS

Pharmacopœia & Medicinal Plasters, in Rubber Combination.

Porous or Plain Spread, size, 7 in. wide by 1 yard long.

	per dozen,	s. d.
Aconite and Belladonna	116	0
Belladonna	17	6
Blister, Cantharidal	17	6
Capsicum	17	6
Mercurial	116	0
Opium	116	0
Pitch Burgundy	17	6
Roborans	17	6
Thapsia	17	6
Warming	17	6

A full line, Plain and Porous.

BREAST PLASTERS

Belladonna, Lead & Phytolacca Decandra, SEPARATELY OR IN COMBINATION.

One dozen in a box. 6 & 7 inches in diameter, Porous and Plain Spread.

Mead's Adhesive Plaster, PLIABLE AND ANTISEPTIC.

5 yd. rolls, 14 inches wide.....per 5 yd. roll, 5s. 0d.
1 yd. rolls, 7 inches wide.....per dozen, 14 0

May also be had in Spools, ½, 1, 2 and 3 inches wide.

Salicylated I. R. Adhesive Plaster,

Porous or Plain Spread, on Strong Cotton Cloth.

Yard Rolls, 7 inches wide.....per dozen, 17s. 0d.
5 yard Rolls, 7 inches wide.....per roll, 6 6

May also be had in Spools, ½, 1, 2 and 3 inches wide,

AND

On Twilled Linen and Moleskin.

Corn and Bunion Plasters.

Mead's MEDICATED.....per dozen boxes, 5s. 0d.

Each box contains one dozen Plasters.

Also a full line of Articulated Corn and Bunion Plasters, round, oval and Square, all styles, thick and thin; in Glass Top Boxes, and containing each 1 gro. Corn or ½ gro. Bunion.

COURT PLASTER.

40 different styles, elegant and Balsamic.

Surgeons' Salicylated Isinglass Plaster.

On fine, pure silk, "Flesh, White or Black."
7 inches wide, 1 yard long.....per dozen, £1 2s. 0d.

Also, on Tracing Cloth and Muslin.

Mustard Plasters,

Spread on Cotton Cloth.

Tins, containing 10 leaves.....per dozen, 15s. 0d.	
Envelopes, containing 6 leaves.....	0 0
Envelopes, containing 3 leaves.....	3 0
Yard Rolls, 6 inches wide.....	10 0
Half-yard Rolls, 6 inches wide.....	0 0

Antiseptics and Absorbents.

A most extensive line, comprising Absorbent, Borated, Carbolated and Salicylated Cottons; Hospital and Flax Lint; Oil Silk and Muslin, Gutta Percha Tissue; Carbolated, Antiseptic, Eucalyptus and Iodoform Gauze; Roller, Plannel and Rubber Bandages, Catgut Ligature, and

Surgical Dressings of every description.

SPECIAL NOTICE.

Our New Catalogue of Specialties is ready for delivery, and contains a complete assortment of our preparations. A copy will be sent to any Chemist on application to
Yours very truly,

SEABURY & JOHNSON, 1 and 2 Australian Avenue, London, E. C.

UMNEY'S

Extensively used in Private and Hospital Practice, on account of its Elegance, Medicinal Value, Moderate Cost. See Opinions of the Medical and Pharmaceutical Press, and testimony as to its superiority over all other Fluid Preparations of Cinchona.

FLUID EXTRACT OF CINCHONA.

Price 10s. 6d. per lb.

To be obtained of all Druggists (Wholesale and Retail) in the United Kingdom.

IN ORDERING SPECIFY "UMNEY'S."

Lancet.—"An excellent preparation—contains all the alkaloids of the Bark."

Medical Times and Gazette.—"An excellent, elegant, reliable, and very convenient preparation."

Medical Press and Circular.—"Used in Hospital and private practice with the most satisfactory results."

Pharmaceutical Journal.—"Excellent preparation furnishing the constituents of the Bark in a concentrated form."

Chemist and Druggist.—"Pharmaceutically worthy of the valuable medicine which it represents."

WRIGHT, LAYMAN & UMNEY,

SOUTHWARK STREET, LONDON, S.E.

WRIGHT'S LIQUOR

origin to too slow a current of blood, of which the most typical example is that seen in Eczema connected with varicose veins of the leg—but to the same category also many examples of Pruritis Scrofi, Labiorum and Ani may be referred—is best relieved by

See TESTIMONIALS of ENTIRE MEDICAL PRESS and from LEADING DERMATOLOGISTS.

The *Practitioner*, of September, 1881, reports a lecture entitled, "Recent Advances in the Therapeutics of Diseases of the Skin," by W. A. JAMIESON, Esq., M.D., &c. The following is an abstract therefrom:—"Itching, which owes its careful flannel bandages, well applied suspensory bandages, and laxative salts or mineral waters, which unload the rectal veins by freeing the portal circulation, combined locally with weak tarry lotion, one of the best of which is Wright's Liquor Carbonis Detergens, a well-made alcoholic solution of Coal Tar, suitably diluted."

From the *Lancet*, Dec. 22nd, 1866:—"In our hands it has been a most effective agent in skin diseases, especially of the chronic eczematous class; and one case psoriasis, which had resisted all other kinds of treatment, speedily got well under the application of the Liquor Carbonis Detergens. We esteem it a very valuable addition to our list of skin remedies."

From the *Medical Times and Gazette*, January 19th, 1867:—

"We have more than once called attention to the value of this remedy in chronic eczema."

CARBONIS

Kept in stock and sold by all Druggists (Wholesale and Retail) throughout the United Kingdom and Colonies.

From the *British Medical Journal*, Sept. 22nd, 1871:—"We have tested it, and can affirm its value as a detergent agent. We consider the Liquor is an article of great utility."

Proprietors:

W. V. WRIGHT & CO., DETERGENS.

Southwark Street, London.